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acuity
TECHNOLOGY MANAGEMENT

8 September 2015

The Directors
PharmAust Limited
Suite 7, 29 The Avenue
Nedlands, WA 6009

Dear Sirs

RE: Valuation of PharmAust Limited as at 31 August 2015

This report has been prepared at the request of PharmAust Limited ("PharmAust" or the "Company") and provides a current valuation of the Company based on its intellectual property ("IP") underpinning human and veterinary drug development programs and Epichem Pty Ltd ("Epichem"), its medicinal chemistry services provider. The drug development programs are conducted through PharmAust's wholly owned subsidiary, Pitney Pharmaceuticals Pty Ltd ("Pitney").

PharmAust (AX:PAA) is a public company listed on the Australian Securities Exchange ("ASX"). In the last 12 months its market capitalisation has ranged from $11.1 million (31 August 2015) to $27.6 million (8 April 2015). The Company's principal activities are the development of pharmaceuticals based on three IP platforms and the provision of specialised services to the pharmaceutical industry through Epichem.

The three drug development programs are:

- Monepantel (PharmAust designation, PPL-1) - a compound approved for veterinary use (sold as an antihelminthic by Novartis AG under the brand name Zolvix®) with additional, anticancer-specific IP licensed from the University of New South Wales ("UNSW"). The compound has recently completed a Phase I human trial at Royal Adelaide Hospital under the guidance of ITD CMAX Pty Ltd ("CMAX"). The product, as advised by the Company, will progress to a Phase II study as a combination therapy.

- Albendazole - an off-patent anthelminthic drug approved for human and veterinary use that has been shown to be a potent Vascular Endothelial Growth Factor ("VEGF") inhibitor and is being evaluated by PharmAust for the treatment of cancer associated ascites; and

- A novel mucolytic formulation to enhance treatment and therapy of abdominal tumours that have resistance to chemotherapy. One such formulation being bromelain with a mucolytic agent, such as N-acetylcysteine ("NAC"), coupled with a chemotherapeutic drug, for example cisplatin.

Monepantel combination therapy is also under evaluation for the treatment of cancers in animals with safe monotherapy having been demonstrated in dogs and a combination therapy trial currently in progress.

The Company owns IP relevant to all product development programs.

Perth-based Epichem provides synthetic and medicinal chemistry services to the drug discovery and pharmaceutical industries. Annual revenues are around $2 million and the company is profitable. It has no proprietary Research and Development ("R&D") programs, and a valuation of the company rests on its current activities and potential to grow turnover.

The Directors of PharmAust have requested a valuation of the Company for internal management purposes. The scope of the valuation is all in-process R&D ("IPR&D") and Epichem.

Acuity specialises in the appraisal and valuation of IP and knowledge-based intangible assets, including in-process R&D ("IPR&D"). The company has experience in valuing medical devices, diagnostic systems, pharmaceuticals, genetic and recombinant DNA technologies, stem cell therapies, and complementary and alternative medicines. Details of our qualifications and experience are summarised in Attachment IX to this valuation opinion. Further details can be found at www.acuitytechnology.com.

The report presents our findings and opinions in the following sections:

1. Summary of Valuation

PharmAust was valued as a sum of parts, being the Pitney pharmaceutical projects and Epichem. The pharmaceuticals were considered as IPR&D with possible products approved for multiple medical indications.

Although a number of techniques suitable for valuing IPR&D were considered for the Pitney valuations, the principle method used is based on a probability or risk adjusted net present value ("rNPV") of future cash flows using revenue projections and expenses developed by Acuity. The method is considered the most suitable for IPR&D. The financial models are based on cash flow projections that may be achieved following further R&D and commercialisation of the IP with probability and discount rate adjustments based on an examination of risks to the successful completion and exploitation of the IP.

EpiChem is valued as a going concern using a number of recognized approaches including capitalization of maintainable earnings and discounted cash flows ("DCF").

Through discussions with Company Directors, review of a patent attorney report, press releases relating to clinical trial programs, and our own independent searches of the patent, scientific and commercial literature, we have concluded that the IPR&D for the various units of IP and EpiChem have after tax valuations as at 1 September 2015 of approximately $64.6 million to $98.9 million with a preferred valuation of $81.8 million.[1] The Low Estimate is based on a very conservative opinion on the potential selling price of products and the High Estimate on achieving approximately 50% more in major markets. A sensitive analysis on other input parameters confirms that the valuation should lie within the estimated range.

The DCF valuations of the pharmaceutical products are built around specific indications: monepantel in ovarian, breast and pancreatic cancers; albendazole in malignant ascites associated with pancreatic and gastric cancers, and the anti-mucin therapy for mucinous adenocarcinoma in gastric and colorectal cancers. With all products, additional cancer forms could be included and, although these may have lower incidences than those selected for the analysis, less supporting data and increased uncertainty about effectiveness, and possibly protracted development times, their inclusion would achieve greater valuations than presented in the analyses.

[1] Throughout this report currency is expressed as Australian dollars and where are other currencies are presented they are designated appropriately. The spreadsheets are in US dollars due to the international focus of the pharmaceutical markets.

Component valuations are:

Table 1: Valuations of Individual Units of IP and Epichem

Product	Indication	Low Estimate ($'000)	High Estimate ($'000)
Monepantel	Ovarian cancer - first approval.	3,883	6,669
	Breast cancer.	19,869	32,273
	Pancreatic cancer.	1,662	2,599
Albendazole	Malignant ascites associated with pancreatic and gastric cancers.	5,472	9,438
Anti-mucin	Gastric and colorectal cancers with mucinous adenocarcinoma.	14,155	22,765
Monepantel	Cancer in dogs.	18,219	22,919
Epichem	Provision of chemistry services.	1,315	2,255
TOTALS		**64,575**	**98,918**

As a cross-check to the rNPV, we considered the market capitalisations of a number of comparable companies and licensing or acquisition transactions, and conclude that the valuations are commensurate with both Australian and international comparables. At the bottom end of the spectrum of companies, we'd expect PharmAust to rank with any Australian listed entity with three human drug development programs in, or having completed a Phase I study, at $60 million, while at the high end, $130 million by comparison with Singapore-listed iX Biopharma.

The pharmaceutical IP valuations are based on the potential for license to a major pharmaceutical, veterinary or biotechnology company or companies and represents the values that PharmAust may realise through such transactions. In a licensing deal the net gains from commercialising the IP are generally split between licensee and licensor, often in a ratio of four to one, the "25% rule", and possibly up to 50:50 depending on the status of a project at the time the transaction is entered. In the current analyses we have apportioned 66.7% of net benefit (defined as Net Profit Before Tax, "NPBT") to the licensee and 33.3% to the licensor on the basis that the Company will have a strong negotiating position following successful proof-of-efficacy in humans, and animals for the veterinary product, on completion of Phase I and Phase II studies.

Full-development and exploitation by PharmAust has the advantage that there will be no sharing of net benefits with another party. However, it does entail greater risks and costs relative to those faced by big pharma and, as a consequence, may require valuation at a significantly higher discount rate.

In determining the valuation range, Acuity projected cash flows for 15 to 20 year periods, depending on drug and indication, being the remaining life of the more recent patents of relevance with, in some cases, an assumed extension in patent term. Likelihoods of successful passage through the various stages of development for a therapeutic product have been obtained from a published analysis of drug and biologicals transition and approval data.

It should be noted that PharmAust needs to fund considerable research, product development and clinical trialling prior to licensing or launch of any products. The Company may need to raise further finance in order to fund these activities. The cash flow model used in the valuations make the assumption that the Company has, or will have, sufficient funds to support it through to profitability. It should be noted that without adequate funds the value of the IP may not be realised.

2. Background

2.1 The Technologies

PPL-1 is potentially a new class of anticancer drug, commonly known as monepantel {(N-[(1S)-1-cyano-2-(5-cyano-2-trifluoromethyl-phenoxy)-1-methyl-ethyl]-4-trifluoromethylsulfanylbenzamide)}. It is proposed that PPL-1 can act alone or in combination with standard of care chemotherapy. Although the chemical is the subject of a patent currently in-force by another company, the IP for the use of PPL-1 in cancer has been assigned to PharmAust from UNSW.

Monepantel is a recognised anthelmintic drug from a class of synthetic chemicals known as Amino-Acetonitrile Derivatives ("AAD"s). There is only one monepantel product available commercially, Zolvix®, which was developed as a sheep drench by Novartis Animal Health (Novartis Animal Health was acquired by Eli Lilly and Company in January 2015). The chemical has an anti-parasitic function and is used for the treatment of nematodes (worms) in sheep.

Monepantel has a well characterised long-term safety profile in different species of animal, which suggests there is potential to use the compound at high to very high therapeutic doses without incurring the very severe side effects that exist with many current cancer drugs. It has the potential to set new standards for safety and efficacy for small molecule cancer drugs.

Pitney and UNSW researchers have shown that *in vitro* treatment of ovarian cancer cells with monepantel resulted in reduced cell viability, inhibition of cell proliferation and suppression of colony formation.[2] Proliferation of human ovarian surface epithelial cells and other non-malignant cells, for example normal kidney cells, were minimally affected. A significant finding was that the drug reduced growth of human ovarian tumor xenografts in immune-compromised mice while it was well tolerated and determined to be nontoxic to vital organs compared to untreated control animals. These pre-clinical findings revealed for the first time the anticancer potential of monepantel.

[2] Bahrami Badlalu F. Evaluation of monepantel (AAD-1566) as a potential anticancer agent in ovarian cancer. PhD Thesis, UNSW 2015.

The compound has also been shown to have potent synergistic action with many cytotoxic drugs used in treating cancer.

The research, coupled with studies by Novartis Animal Health, suggests that human studies may be more rapid than is usually the case for a New Chemical Entity ("NME"). A Phase 1 study of the tolerability, safety and pharmacokinetics of oral monopantel in individuals with treatment-refractory solid tumours has been completed by CMAX in Adelaide. The seven patient, dose ranging study reported:

- Good safety profile as compared with many other established anticancer drugs; and
- Activity against cancer through suppression of a relevant cancer marker, p70S6K.[3]

The next stage in PPL-1's development will include the treatment of patients in combination with commonly used chemotherapy drugs. This requires reformulation of the monepantel into capsules, as the main challenge faced with the liquid formulation used in the CMAX studies was the poor palatability and nausea from the unpleasant taste.

Additional studies have aimed to elucidate the compound's utility in treating cancer in dogs. Four dogs have so far received monepantel on a compassionate basis with no observed adverse effects.

PharmAust's second candidate product is the compound, albendazole which has been proposed as a treatment for cancer-associated ascites. Two clinical trials in humans have been completed showing:

- Maximum tolerated dose;
- Benefits in localised therapy in the abdomen; and
- Significant inhibition of Vascular Endothelial Growth Factor ("VEGF") a protein implicated in diseases with excessive or abnormal blood vessel formation, including cancer.

A Phase II study is planned for the compound.

Albendazole has been approved for oral and injectable use in humans for treating worm infections.

The third arm or PharmAust's cancer therapeutics programs is related to mucin reduction in specific cancers. Studies by Pitney scientists have demonstrated that the mucolytic agents bromelain, an extract of pineapple, and NAC are cytotoxic to, and inhibit proliferation of, a range of mucin-producing gastrointestinal carcinoma cells *in vitro*. The researchers have also shown the growth-inhibitory effect of bromelain and NAC in two animal models of peritoneal carcinomatosis. Other studies demonstrated the mucin-depleting effects of bromelain and NAC employing three different mucin-producing gastrointestinal carcinoma cell lines. The combination of drugs can effectively solubilise soft human mucin in *in vitro* and *in vivo* models (rat with peritoneal implanted mucin).

[3] Phase I Trial at Royal Adelaide Hospital Meets safety and Cancer Marker End Points for Tumour Suppression. PharmAust Press Release, 23 July 2015.

Results also show that at certain concentrations, combination of the mucolytic agents with chemotherapeutics, cisplatin and 5-fluorouracil, results in enhanced inhibition of cell viability and reduced cell proliferation compared to the treatment with chemotherapeutics alone. Combined use of these mucolytic agents and chemotherapeutics may be an important strategy to derive maximum cytotoxicity of chemotherapeutics agents when lower dosage is used with the benefit of reduced side effects.

One form of bromelain (it generally being an extract of variable concentration) has been approved in Europe as a topical debriding agent. In the US it remains an investigational drug.

NAC is considered as safe. It has regulatory authority approval for intravenous use for the treatment of paracetamol overdose with the US Food and Drug Administration ("FDA") and as a second line agent for the treatment of other poisoning agents. NAC is now widely used as a mucolytic agent for relieving purulent mucin secreted in respiratory diseases and infections.

Epichem is a profitable wholly owned subsidiary of PharmAust. It provides services in synthetic and medicinal chemistry to the drug discovery and pharmaceutical industries. It operates from two state-of-the-art laboratories in Perth and Melbourne from which it serves an international clientele ranging from small operations to large multinational pharmaceutical companies. It achieves this by combining a quality team (12 PhDs) of highly innovative chemists and a management committed to customer service.

2.2 Intellectual Property

In addition to the research and clinical results available through Pitney and UNSW programs, the IP includes a number of patents and patent applications.

The monepantel-related patent portfolio comprises four families:

- MPL 1 Patent Family, *Kinase inhibitors for treatment of cancer*;
- MPL 2 Patent Family, *Compounds for the treatment of mTOR pathway related disease*;
- MPL 3 Patent Family, *Pharmaceutical combinations for the treatment of cancer*; and
- MPL 4 Patent Family, *Anticancer agent comprising aminoacetonitrile compound as active ingredient*, which PharmAust co-owns with a Japanese company.

Pitney has also filed additional patents covering novel uses of albendazole and the anti-mucin combination therapy.

2.2.1 Monepantel and Cancer

Pitney researchers have shown that monepantel has a novel mechanism of action for killing cancer cells, by acting on the mTor pathway, in contrast to its action as a blocker of acetylcholine receptors specific to nematodes (worms). More specifically, it blocks the Hco-MPTL receptor in worms.

The researchers report: "*The cytotoxic effect of MPL*[4] *on ovarian cancer cells (OVCAR-3 and A2780) was investigated employing a panel of tests used for the detection of apoptosis and autophagy. Failure to cause DNA laddering and the inability of z-VAD-fmk to block the MPL antiproliferative effects led to the ruling out of apoptosis as the mechanism behind MPL-induced cell death. On the other hand, accumulation of acidic vacuoles with distinct chromatin morphology and an increase in punctuate localization of green fluorescent protein-LC3B, and MPL-induced changes in the expression of SQSTM1/p62 were all indicative of MPL-induced autophagy. Consistent with this, we found inhibition of mTOR phosphorylation leading to suppression of the mTOR/p70S6K signalling pathway. Our findings provide the first evidence to show that MPL triggers autophagy through the deactivation of mTOR/p70S6K signalling pathway*."

Knowledge of the mechanism of action in cancer treatment enables the drug's efficacy to be monitored in part through measurement of the biomarker, p70S6K.

MPL 1 Patent Family. Published patent **WO2013/038863, *Kinase inhibitors for the treatment of cancer***, filed on 22 March 2013 in the name of Pitney Pharmaceuticals and D Morris as inventor, relates to kinase inhibitors, particularly the use of AADs in the treatment of cancer. The patent is pending in major jurisdictions.

AADs are a class of anthelmintics effective against drug-resistant nematodes. Monepantel is an AAD and has been approved as a nematocide for the treatment of sheep gastrointestinal parasites.

Nihon Nohyaku Co Ltd is the owner of Australian Patent 752112, US Patent 6,239,077 and international equivalents, *Aminoacetonitrile derivative, agricultural and horticultural insecticide containing the same, and use thereof*, which claims chemical structures that include monepantel. According to Spruson and Ferguson, PharmAust's patent attorneys, the patents expire on or about the end of April 2019 depending on jurisdiction.[5] A five year extension of term, to April 2024, has been allowed in Switzerland, Germany, France the UK and Italy.

Nihon granted Novartis Animal Health an exclusive license to develop all molecules in the class of AAD's covered by the composition-of-matter patent in the field of veterinary medicine.[6] As a consequence, Pitney does not require a licence from Nihon for the development of a product for animal use but does require a sublicence from Novartis Animal Health.

Pitney has entered into a Collaborative Research and Option Agreement with Novartis with respect to conducting certain research on monepantel and AADs in the field of, "*Treatment of cancer in animals*". This agreement also requires Novartis Animal Health to make ADDs available for the research. IP resulting from the Research Program (defined as "Program IP") will be jointly owned by Pitney and Novartis in equal shares, except that Novartis will own all Program IP outside the field of oncology, or with respect to monepantel analogues and AADs provided to Pitney by Novartis.

Pitney has initiated discussions with Nihon for the purpose of obtaining a worldwide, exclusive licence to the AAD patent to develop human applications of monepantel or its analogues in the field of treating human cancers.

[4] MPL = monepantel/PPL-1.
[5] Blattman A and Heuzenroeder P. Monepantel Related Intellectual Property Report, Ref: LC00082. Spruson & Ferguson Lawyers. Prepared for Pitney Pharmaceuticals Pty Ltd, 6 August 2015.
[6] Novartis AG is the owner of patent WO2011/117346, which claims the synergistic use of monopantel and abamectin for treatment of endoparasites. This is of no relevance in the current context.

MPL 2 Patent Family covers AADs and is directed at mTOR (mammalian Target of Rampamycin) neurological diseases, such as Alzheimer's disease, Huntington's disease, etc. and chronic inflammatory diseases, rheumatoid arthritis and transplanted organ rejection; fibrotic diseases of the liver, heart and lungs. It also extends cancer claims to include solid tumours and leukemias, lymphomas, etc.

The patent family derives from application **WO2014/022879, *Compound for the treatment of mTOR pathway related diseases***, filed by Pitney Pharmaceuticals on 5 August 2013. It is pending in major markets of the world.

MPL 3 Patent Family is Patent Cooperation Treaty application **WO2015/061832 (PCT/AU2014/001017), *Pharmaceutical combinations for the treatment of cancer***, filed in the names of Pitney Pharmaceuticals and NewSouth Innovations Pty Ltd, on 31 October 2014. The patent has yet to enter national phases.

The applications extends the use of monepantel and related compounds to use in a combination with a broad range of known anticancer compounds such as doxorubicin, cisplatin and 5-fluorouracil citing many cancers that may be amenable to such combinations.

MPL 4 Patent Family is **WO2015/037747 (PCT/JP2014/074764)** filed 12 September 2014, ***Anticancer agent comprising aminoacetonitrile compounds as active ingredient***, filed in the names of Nihon Nohyaku and Pitney Pharmaceuticals. It has yet to ender national phases.

Our patent searches identified no other patents covering the use of monepantel in the treatment of cancer and the valuation assumes PharmAust has no restrictions in its freedom-to-operate.

2.2.2 Albendazole and Cancer, incl. Malignant Ascites

Albendazole is a broad-spectrum antiparasitic drug. It was first marketed by SmithKline Beecham (now GlaxoSmithKline) outside the US in 1982 and was approved by the FDA for human use in 1996.[7] Its composition-of-matter patents have expired. One product is currently approved in the US, Albenza®, a chewable tablet marketed by Amedra Pharms LLC. In Australia, Eskazole® and Zentel® (Aspen Pharmacare Australia) are registered.

The PharmAust, albendazole patent portfolio includes:

WO2006/024092 (PCT/AU2005/001318), *VEGF inhibition*, in the name of NewSouth Innovations, filed 9 March 2006, covering the use of benzimidazole carbamate compounds, which includes albendazole, for the inhibition of production or secretion of VEGF of relevance in the treatment of certain cancers, including ovarian, colorectal, liver, pancreatic, gastric, endometrial, renal or other primary or metastatic tumour cell. The claims also cover retinopathic neovascularisation which is associated with proliferative retinopathy, diabetic retinopathy, retinopathy of prematurity or macular degeneration.

[7] One publication reports that the US albendazole price went from US$5.92 per daily dose in 2010 to US$119.58 in 2013. Medicaid data show that spending on albendazole increased from less than US$100,000 per year in 2008, when the average cost was US$36.10 per prescription, to more than US$7.5 million in 2013, when the average cost was US$241.30 per prescription. Frellick M. Prices Soar for Off-Patent Drugs as Competition Thins. Medscape Medical News, Nov 14, 2014.

The claims cover use of albendazole for indications where excessive VEGF production results in increased vascular permeability and is associated with an accumulation of fluid in a body cavity of the subject as a consequence. Malignant ascites is one such indication.

A granted patent has been registered in many countries including Australia, Europe and the US.

WO2006/060853 (PCT/AU2005/001839), ***Treatment for cancer***, in the name of NewSouth Innovations, filed 12 June 2005, claims the use of benzimidazole carbamate compounds for the treatment of tumours, comprising administration of at least one taxoid and an effective amount of at least one benzimidazol carbamate, including albendazole. The invention also provides a method for the treatment of tumours insensitive to one or more anti-mitotic drugs.

A granted patent has been registered in many countries including Australia, Europe and the US.

The earliest patent application held by the Company is: **WO02/076454 (PCT/AU02/00339),** ***Method for treatment of cancer and compositions for use therein***. The applicant is Unisearch Limited (predecessor company to NewSouth Innovations) along with the inventors Morris and Pourgholami. It was filed on 3 October 2002. Claims cover the treatment of tumours using a class of compounds that includes benzimidazole carbamate. Patents have been granted in Europe and Australia, but not in the US or Japan.

We note the existence of one other patent in the name of Odyssey Thera, Inc of the US WO2006/017185, *Drugs for the treatment of neoplastic disorder*, filed 8 July 2005. This patent claims the use of albendazole, amongst other compounds and in combinations, for the treatment of cancer. We are unable to confirm that the company is developing a product along these lines or that the company remains operational. No companies have registered clinical trials with albendazole for cancer with the US National Institutes of Health website, *clinicaltrials.gov*. Pitney's patent WO02/076454 has priority. However, the Odyssey application claims combination with a second, chemotherapeutic agent, including toxoids and this precedes Pitney's patent WO2006/060853.

2.2.3 Mucin and Cancer

The relevant patent application for the mucin program is **WO2014/094041 (PCT/AU2013/001474)** ***Treatment of disease involving mucin***, in the name of Pitney Pharmaceuticals, filed 17 December 2013. National phases have been entered and the patent is pending in important countries.

The claims cover the use of bromelain compounds with at least one mucolytic agent, including NAC, coupled with, for example, a chemotherapeutic drug (or N-glycosylation inhibitor, silyltransferase inhibitor, multi-drug transport inhibitor, NSAID, antibiotic, and anti-inflammatory agent). Thus, a combination such as bromelain, NAC and cisplatin are claimed to constitute a potent therapeutic combination acting synergistically to treat diseases involving mucin including cancer, pseudomyxoma peritoneii ("PMP"), cystic fibrosis, and disease involving thrombi such as haemophilia, myocardial infarction, coronary artery disease, stroke, massive pulmonary embolism and acute limb ischaemia, and stent-related thrombosis or haemarthrosis. Cancer is further exemplified as lung cancer, breast cancer, colorectal cancer, thyroid cancer, prostate cancer, stomach cancer, pancreatic cancer, cancer of the appendix and ovarian cancer, and signet ring cell carcinoma.

2.3 Commercialisation Strategies

2.3.1 Pitney Pharmaceuticals

Pitney intends to conduct further clinical trials on all three of its technology portfolios prior to licensing the technology to pharmaceutical, veterinary or biotechnology companies with the skills and resources to complete late-stage clinical trials, manufacture and globally distribute products. Phase I and II clinical trials will be done with input from a major contract research organisation ("CRO") such as CMAX, and other consultant oncologists. PharmAust will significantly increase the value of its technology by developing it through both Phase I and II clinical trials.

The stages necessary to obtain marketing approvals for human drugs is well defined and are not discussed in detail in this report.

PPL-1 is the most advanced of the Company's programs at this point in time although the veterinary product may be the closest to market. The following work is planned to be undertaken by the Company over the next two to three years for monepantel as a human anti-cancer treatment:

- Completion of further supportive preclinical studies to enable combination therapy with standard-of-care chemotherapeutic and conduct a Phase II study under Clinical Trial Notification scheme in Australia, including preparation of a new clinical trial application for the ethics committee of the Royal Adelaide Hospital and other centres, potentially including overseas, that may be interested in participating in the Phase II trial (currently under discussion);

- Initiate discussions for licensing of the human cancer applications; and

- Agree a commercialisation strategy relating to the joint patent with Nihon;

- Conduct a Phase I/II trial in either Australia or Europe in an international setting under international guidelines.

Two canines have now received PPL-1 with standard-of-care chemotherapy with no observed adverse events. The process for the veterinary product now is:

- Canine recruitment will continue animals in order to support statistical significant demonstration of efficacy and reduced side effects with the chemotherapeutic; and

- The Company will determine the next stages with a potential Option partner (suggested as a top five pharmaceutical company) for the veterinary applications of PPL-1 and related molecules.

From our investigations we understand that the FDA may require a minimum of 150 dogs for a full marketing approval. The European regulator, the European Medicines Authority ("EMA"), does not generally require a specific minimum number of dogs.

Albendazole will progress to a Phase II/III study in ascites while the mucin combination requires further pre-clinical evaluation. As, in both cases, the drugs in question have been approved for human use or are recognised as safe, we anticipate that a Phase II, or II/III, study may lead to a single pivotal study prior to marketing approvals.

2.3.2 Epichem

Epichem has been providing synthetic and medicinal chemistry services to the drug discovery and pharmaceutical industries worldwide for over a decade. It presents itself as a "Hi-Tech provider" of chemistry-based products and services. Epichem is globally competitive and export focused with ~85% of its current revenues coming from overseas.

Revenues continue to grow steadily and the 2014 financial year saw record revenues for Epichem of $1.89 million (last audited accounts). This is 12% up on the previous year's revenues of $1.69 million. The company was profitable in years ending 30 June 2012, 2013 and 2014 but, on unaudited accounts, had a loss for 2015. Epichem argues that its growth has been limited by shortage of laboratory space and this, a consequence of lack of funds. "Without additional laboratory space, revenues would not be expected to grow much beyond 5% per year."

The most significant component of a projected revenue forecast is an increase in the sale of Reference Standards from Epichem's catalogue both by expanding the catalogue and increasing the revenue-per-standard (forecast at 35% increase per year for six years).

Unlike other companies involved in drug discovery and outsourcing, which usually provide either fee-for-service research or develop their own IP, Epichem's strategy is to generate both a cash flow by providing products and fee-for-service research and undertake its own IP generating research. The combination of these two highly complementary strategies has made the business more robust and sustainable, allowing a more effective use of limited resources.

3. Markets and Competition

3.1 Cancer

The likely applications for monepantel/PPL-1 are cancers of the breast, colon, kidney, ovaries and pancreas where there are *in vitro* and animal studies showing efficacy and a rationale for treatment.

Cancer accounted for 8.3 million deaths in 2013. With a growing incidence of 469.6 per 100,000 in the US alone, the oncology market is anticipated to grow to at around 7% per annum to US$109 billion by 2020.

The US National Institutes of Health estimated the overall costs of cancer in 2010 at US$263.8 billion, of which $102.8 billion was for direct medical costs (total of all health expenditures).[8] Over half of the direct medical costs are due to treatment of breast, lung and prostate cancers. In 2004, US Medicare payments for all drugs classified as Part B (those that aren't self-administered with coverage limited to infusion or injection) for medical oncology reached a total of US$5.3 billion (of $2.3 billion for chemotherapy and $1.5 billion for erythroid growth factors). A 2007 study said that drugs prescribed by oncologists account for more than 40% of Medicare spending.

The proportion of breast cancer patients treated with chemotherapy rose from 11% to 24% between 1991 and 2002. Average breast cancer chemotherapy costs increased by an average of US$6,160 to $12,802 per person over the period, slightly lower than the average colorectal chemotherapy costs.

[8] The Chemotherapy Drug Industry (http://chemoth.com/economics).

The firm Natixis, as quoted in the Chemotherapy Drug Industry report, estimated that the chemotherapeutics industry will grow at 8% per year, reaching US$93 billion in 2016, and IMS Health estimated that it will grow at nearly double the rate of the global pharmaceutical market, potentially reaching US$80 billion by 2012. IMS predicted a growth rate of 12% to 15%, due to expensive new treatments.

DataMonitor Healthcare reports that in the US, Japan, and five major EU markets, ovarian cancer patients have an approximate overall five-year survival rate of 44.2%. Survival rates largely depend upon stage at diagnosis with the five-year survival rate for localized disease 91.9%, significantly higher than that observed in distant disease (27.3%).

Most patients with ovarian cancer present with advanced disease at diagnosis. Despite high responses to initial treatment, the majority will eventually relapse with incurable disease. Common chemotherapy drugs used for the treatment for ovarian cancer include cisplatin or carboplatin, and paclitaxel or docetaxel, which are most often given in combination. The largest unmet need in ovarian cancer is for effective therapies for patients who develop resistance to platinum-based chemotherapies. Platinum resistance is the main factor contributing to mortality in ovarian cancer. Patients with platinum-resistant ovarian cancer currently have very limited treatment options. For these patients, the preferred treatment is a range of single non-platinum-based cytotoxic chemotherapies, which are usually administered sequentially. The response rates to these single agents are low, and responses are short-lived. Single-agent non-platinum-based chemotherapies include topotecan (20% response rate), docetaxel (22%), paclitaxel (21%), gemcitabine (19%), vinorelbine (20%), liposomal doxorubicin (26%) and etoposide (27%)

DataMonitor Healthcare estimates that sales of patented ovarian cancer drugs (Avastin and biosimilars, Lynparza, Rucaparib, Vigil, niraparib, Recentin and Perjeta a number of which have yet to launch) will grow from US$171 million in 2015 to US$667 million in 2023 across the seven major markets (US, Japan, France, Germany, Italy, Spain and the UK). Patient numbers on these drugs will grow from 15,800 to 28,670 from 2015 to 2023 respectively.

The International Agency for Research on Cancer ("IARC") in its Globocan 2012 database[9] provides information on incidence and prevalence for common cancers and Table 2 presents data for breast, colon, renal, ovarian, prostate and pancreatic cancer in developed and undeveloped countries.

Epithelial ovarian cancers account for about 85% to 90% of ovarian cancers, and are the most aggressive and dangerous sub-type. According to the National Cancer Institute, the five year survival rate for ovarian cancer from 2004 to 2010 was 44.6%, and it is estimated that 21,980 women will develop and 14,270 women will die from ovarian cancer in 2014. In the EU, the five year survival rate for ovarian cancer was 37.6% from 2000-2007. In 2012, there were 44,483 diagnosed cases of ovarian cancer in the 28 member states of the European Union ("EU28"), according to the International Agency for Research on Cancer, while 29,758 women died of the disease.

In the US, 51% of women with ovarian cancer are diagnosed with stage III cancer, characterized by microscopically confirmed peritoneal metastasis outside the pelvis and/or regional lymph node metastasis.

[9] http://globocan.iarc.fr/Default.aspx.

Table 2: Incidence & Prevalence of Relevant Cancers (GloboCan 2012)

Cancer	Incidence	5 Year Prevalence
Breast		
More Developed Regions	788,192	3,200,598
Less Developed regions	882,656	3,031,510
World	167,084	6,232,108
Ovarian		
More Developed Regions	99,457	245,418
Less Developed regions	137,402	341,206
World	236,859	586,624
Colorectal		
More Developed Regions	736,797	2,129,736
Less Developed regions	623,259	1,413,846
World	1,360,056	3,543,582
Prostate		
More Developed Regions	741,937	2,870,970
Less Developed regions	352,936	986,530
World	1,094,873	3,857,500
Kidney		
More Developed Regions	198,014	591,423
Less Developed regions	130,190	315,323
World	328,204	906,746
Pancreatic		
More Developed Regions	187,438	107,118
Less Developed regions	150,322	104,426
World	373,760	211,544

Incidence is defined as the rate at which a specific disease occurs. It is the number of new cases occurring during a certain period, generally a year. Prevalence is the total number of individuals with a disease in existence at a certain time in a designated area.

There is a large range in the cost of individual chemotherapy treatment. The cost of eight weeks of chemotherapy can range from US$100 to US$30,000 and significantly more with newer CTLA-4 and PD-1 inhibitors costing up to US$200,000. As summarised in the Chemotherapy Drug Industry report, the average annual cost for chemotherapy drugs per user was US$22,353, based on a grouping of the ten common cancers where chemotherapy is a key treatment modality.

An analysis of cancer drug development times by Adams & Bantner found the following average durations: Phase I, 21 months; Phase II, 30 months and Phase III, 29 months.[10] These authors estimated the cost for developing a cancer drug from discovery to registration as US$1.042 billion.

[10] Adams CP & Brantner VV. Estimating The Cost Of New Drug Development: Is It Really $802 Million? Health Affairs 25(2):420, 2006.

3.2 Malignant Ascites

Malignant ascites is the term given to fluid build-up in the peritoneum as a consequence of infiltration by metastatic cancer cells. It can be caused by various kinds of tumours. The peritoneal spread of epithelial tumour cells leads to an accumulation of fluid in the peritoneal cavity and is associated with an unfavourable prognosis for the patient.

It has been reported that about 50% of patients with malignant ascites present with ascites at the initial diagnosis of their cancer. Around 15% to 50% of all cancer patients will develop the condition. It is most commonly seen in ovarian cancer, where it is present in 36% of women at the time of diagnosis of the cancer, and is present in approximately 60% at the time of death.

The presence of large volume ascites causes abdominal discomfort, anorexia, nausea and vomiting, and deterioration in quality of life. Palliation of symptoms with minimal distress is therefore paramount. The most common method of treatment is paracentesis, insertion of a catheter and drainage of fluid, which generally must be repeated at intervals of one to two weeks and can lead to complications such as infections or elevated losses of fluids and proteins.

In cancer, ascites is seen most commonly in ovarian cancer; pancreatic, 21%; gastric cancer, 18%; and colon, oesophageal and breast cancer, 11% collectively. The prognosis for patients who develop malignant ascites is very poor.[11] The median survival time is only a few months, depending on the underlying tumour type and stage. Low serum albumin and total protein levels are both linked to worse prognosis, while the presence of liver metastases arising from all tumour types is associated with the poorest overall survival.

There is little pharmaceutical competition to PharmAust with only one approved product, Removab® (catumaxomab, Fresenius Biotech). Removab consists of one half (one heavy chain and one light chain) of an anti-EpCAM antibody and one half of an anti-CD3 antibody. In addition, the heavy chains can bind to an Fc receptor like other antibodies. Removab destroys the peritoneal cancer cells and thus directly attacks the cause of malignant ascites. By binding to an epithelial tumour cell via one arm, to a T lymphocyte via the other arm and to an antigen-presenting cell like a macrophage, an NK cell or a dendritic cell via the heavy chains, an immunological reaction against the cancer cell is triggered.

Removab was approved for the treatment of malignant ascites by the EMA in 2009. Fresenius subsequently obtained reimbursement approvals for Removab from the national health care systems of several European countries. Although receiving Orphan Drug status for ovarian cancer in the US, the product has yet to be approved.

Around 90% of patients treated with Removab have side effects, including pyrexia, nausea and abdominal pain due to cytokine release.

The pivotal study for Removab involved 258 patients with malignant ascites due to various carcinomas. Of those, 129 suffered from ovarian cancer, while another 129 had other types of cancer. Patients received paracentesis followed by four intraperitoneal infusions of Removab, or paracentesis alone (control group).[12]

[11] Ayantunde AA & Parsons SL. Pattern and Prognostic Factors in Patients with Malignant Ascites: A Retrospective Study. Annals Onc 18:945, 2007.
[12] Heiss, et al. Int J Cancer 127:2209, 2010.

In June 2013, Neopharm Group (Israel) acquired the biotech subsidiary of Fresenius SE & Co. for an undisclosed price. The transaction included Removab as well as the immunosuppressive drug ATG-Fresenius S. According to Fresenius, the gain on disposal amounted to €0.[13] Fresenius Biotech finished 2012 with a €26 million (US$33.9 million) loss in earnings before interest and taxes, slightly better than 2011's EBIT loss of €30 million ($39.1 million). The loss came despite a 14% jump in sales, to €34.9 million ($45.5 million) from €30.7 million ($40 million) in 2011. The biotech subsidiary had 150 employees and generated sales in 60 countries.

ATG-Fresenius S was reported as being profitable in 2012, with sales rising 15% year-over-year to €30.8 million ($40.1 million). Removab sales grew by 3% over 2011, to €4.1 million ($5.3 million).

DataMonitor estimated that sales of Removab could achieve US$70 million by 2016 following US approval.

3.3 Mucin

Mucins are a family of high molecular weight, heavily glycosylated proteins produced by epithelial tissues including those of the gastrointestinal tract, lungs, kidneys, ovaries, breast and pancreas. Under normal conditions, mucin plays a protective role for epithelial tissues. The synthesis of mucin on the surface of epithelial cells is normally highly regulated, but in tumors there is increased production. The secreted and transmembrane mucins that constitute the mucus barrier are considered to promote tumour progression. A high level of mucin is associated with metastasis and poor clinical outcome in patients diagnosed with cancer.

Pseudomyxoma peritoneii ("PMP") is a syndrome characterized by the gradual filling of the abdomen with mucin produced by a mucinous epithelial tumour generally arising in the appendix. Filling of the abdomen causes significant discomfort and in severe cases can lead to the death of the patient. Since PMP and mucin are inextricably linked, any therapeutic intervention needs to properly target the mucin ectopy.

PMP is a rare disease with an estimated incidence of one per million persons per year. One Dutch study suggests as high as two per million per year.[14]

PMP has generally been considered benign. However its behavior suggests that it should, at best, be considered a borderline malignancy with disease progression over time, to massive abdominal distension and nutritional compromise in most cases. The long term survival in most patients remains poor with reported five and 10 year survival rates of 50% and 10% to 30%, respectively.[15]

[13] Fresenius SE & Co. Annual Report 2014.
[14] Smeenk RMI, *et al*. Appendiceal neoplasms and pseudomyxoma peritonei: a population based study. Eur J Surg Oncol 34(2):196, 2008.
[15] Bevan KE, *et al*. Pseudomyxoma peritonei. World J Gastrointest Oncol 2(1):44, 2010.

In 90% of cases, the primary lesion is an appendiceal mucinous tumour, but ovarian mucinous tumours have been reported (7%) and, more rarely, mucinous tumours of the colon, stomach, pancreas, and urachus. There are currently no validated recommendations on clinical management and no cytotoxic agents have been granted an EMA authorization in the indication. Nonetheless, the best curative option appears to be complete cytoreductive surgery (visceral resections and peritonectomy procedures) combined with hyperthermic intraperitoneal chemotherapy (off-label use), sometimes followed by intravenous chemotherapy (off-label use) which can only be considered in young patients with good general status.

Mucinous carcinoma of the breast, sometimes called colloid carcinoma, is a rare form of invasive ductal carcinoma (cancer that begins in the milk duct and spreads beyond it into nearby healthy tissue).[16] In this type of cancer, the tumor is made up of abnormal cells that "float" in pools of mucin.

Research suggests that only about 2% to 3% of invasive breast cancers are "pure" mucinous carcinomas, meaning that this is the only type of cancer present within the tumor. About 5% of invasive breast cancers appear to have a mucinous component within them, with other types of cancer cells present as well.

Signet ring cell carcinoma ("SRCC") is an epithelial malignancy characterized by the histologic appearance of signet ring cells. It is a form of adenocarcinoma that produces mucin. It is most often found in the glandular cells of the stomach, but it may develop in other areas of the body, eg. the prostate, bladder, gallbladder, breast, colon, ovarian stroma and testis. It may also be seen in renal cell carcinoma.

More than 96% of the SRCC arises in the stomach, with the remainder arising from other sites involving colon, rectum, gall bladder, pancreas, urinary bladder and breast. As symptoms usually appear late, SRCC are commonly detected at advanced stages.

Mucinous adenocarcinoma accounts for 10% of gastric carcinoma.[17] SRCC comprises about 8.7% of all gastric cancers. [18]

Although colorectal adenocarcinoma has a relatively better prognosis than other gastrointestinal malignancies with the same stage, specific histological types of colorectal carcinoma such as mucinous adenocarcinoma and signet-ring cell carcinoma have a poor prognosis.[19] Incidence rates per 100,000 persons with colorectal cancer have, in one study, been segregated as mucinous, 5.5; signet-ring cell, 0.6; and adenocarcinoma 46.6. Relative five-year survival was worse for signet-ring cell than mucinous or adenocarcinoma.[20]

A further potential application of the technology is malignant peritoneal mesothelioma, a rare form of neoplasm that occurs in the mesothelial lining of the peritoneal cavity with asbestos is a known causative agent.

[16] http://www.breastcancer.org/symptoms/types/mucinous
[17] Hu B, *et al*. Gastric cancer: Classification, histology and application of molecular pathology. J Gastrointest Oncol. 3(3): 251, 2012.
[18] Kim DY1, *et al*. Clinicopathological characteristics of signet ring cell carcinoma of the stomach. ANZ J Surg. 2004 74(12):1060, 2004.
[19] http://www.nature.com/modpathol/journal/v21/n12/full/modpathol2008170a.html.
[20] (http://www.ncbi.nlm.nih.gov/pubmed/15868237).

3.4 Cancer in Dogs

The overall market for veterinary medicinal products has been estimated at US$22 billion with annual growth rate of 5.7% until 2016.[21]

According to The European Pet Food Industry Federation 2012 Facts & Figures, there are approximately 60 million pet dogs in the EU. The US is the single largest pet market, with 83 million pet dogs. The total US veterinary services market is US$15 billion in 2014.[22]

Cancer accounts for almost half of the deaths of pets over 10 years of age. In younger dogs, cancer kills about 33%. Dogs get cancer at roughly the same rate as humans, while cats get fewer cancers.

While the actual number of dogs in need of chemotherapy that received such treatment is unknown, one study estimated the number of dogs receiving cancer treatment in 2008 in the US to be over one million.[23] For dogs in need of chemotherapy, the standard of care has largely been the off-label use of injectable human chemotherapeutic agents such as cisplatin, doxorubicin, carboplatin, and vincristine.

One source cites Petplan Pet Insurance's claims in reporting that there are over 75 million pet dogs in the US and around 60% of dogs over the age of six develop some form of cancer.[24] US pet cancer therapies are estimated at US$550 million, with a price point of around US$1,500 per treatment.

Swedish veterinary drug developer, Oasmia Pharmaceuticals AB has estimated global companion animal drug market, which is commonly based on generic human products, is US$7 billion. Approximately 25% of the 80 million dogs in the US alone will develop a tumor during their lifetime.[25]

According to the Animal Cancer Foundation, approximately six million dogs per year are diagnosed with cancer in the US, slightly fewer than 10% of the population. Based on a population of 60 million dogs in the EU, Oasmia estimates almost six million dogs per year are diagnosed with cancer in Europe. The company estimates that between 36,000 and 41,250 dogs are treated annually for mammary carcinoma, while the number of diagnoses for squamous cell carcinoma in dogs is less than 10,000 annually.

Mammary cancer was the most frequently diagnosed cancer in female dogs, accounting for 70% of all cancer cases.[26] Incidence of all cancers was 99.3 per 100,000 dog-years in male dogs and 272.1 in female dogs. The highest incidence rates were detected for mammary cancer and for non-Hodgkin's lymphoma in bitches and for non-Hodgkin's lymphoma and skin cancer in male dogs.

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[21] Oasmia AB. 2014 Annual Report (http://www.oasmia.com/html/upl/539/annual_report_oasmia_2014.pdf).
[22] American Pet Products Association. (http://www.americanpetproducts.org/press_industrytrends.asp.
[23] Oasmia Prospectus Pharmaceuticals AB Preliminary Prospectus for listing on the NASDAQ Capital Market, dated 7/6/15.
[24] Proactiveinvestors Australia. PharmAust's cancer drug approved for clinical trial in canine cancer treatment, February 20, 2014 (http://www.proactiveinvestors.com.au/companies/news/53010/pharmausts-cancer-drug-approved-for-clinical-trial-in-canine-cancer-treatment-53010.html, accessed 15 August 2015).
[25] http://www.oasmia.com/news.asp?c_id=373, accessed 8 Aug 2015).
[26] Merlo DF1, *et al*. Cancer incidence in pet dogs: findings of the Animal Tumor Registry of Genoa, Italy. J Vet Intern Med. 22(4):976, 2008.

Cancer occurrence rate is usually measured as the number of new cases of cancer in companion animals per year. The rates are difficult to calculate because there are no registries in place and the following numbers represent only approximate yearly cancer incidence in dogs per 100,000 animals based on available data:

Table 3: Incidence of Cancers in Dogs[27]

Cancer site	Dogs (per 100,000)
Overall cancer occurrence	381.2
Skin (nonmelanoma)	90.4
Skin (melanoma)	25.0
Digestive tract	25.2
Respiratory system	8.5
Connective tissue	35.8
Mouth and pharynx	20.4
Breast	198.8

Oasmia estimates that ~30% of all dogs today being treated for lymphoma are getting some form of chemotherapy (at owner costs ranging from US$2,500-$8,000 per course of therapy).

As reported by Animal Pharm, one veterinary cancer drug developer commented, "Obviously, owner out-of-pocket costs limit the potential of pet therapies to achieve billion-dollar projections as in human cancer, but it is not unreasonable to assume novel pet cancer drugs could eventually generate sales in the $(US)50m-$100m range".[28]

The cost of diagnosis and treatment varies depending on the site of the tumor, the size of the pet, the type of treatment selected.[29] In the US, major surgical procedures such as tumour removal are quoted as US$1,500 upward. Chemotherapy costs vary with size of the pet but may range from several hundred dollars for palliative oral treatment to several thousand dollars over a 3-6 month period. Radiation therapy will range from approximately US$2,000 to US$6,000 depending on the type of radiation therapy.

Another source suggests that, in Australia, to treat a dog with cancer can cost more than US$10,000 and up to $20,000 once you factor in CT scans to diagnose the cancer ($1,000), surgery to remove a tumour ($3,000 to $4,500) and follow-up radiation therapy (up to $4,500), or chemotherapy ($2,000).[30]

[27] Withrow SJ and Vail DM. Small Animal Clinical Oncology. St Louis: Saunders Elsevier, 2007 (found at (http://www.petcancercenter.org/About_Cancer_Main_Page.html/ accessed 11 Aug 2015).
[28] Harvey J. Pet cancer treatment: R&D dead end or the next blockbuster goldmine? AnimalPharm 18 May 2015 (https://www.agra-net.net/agra/animal-pharm/analysis/pet-cancer-treatment-rd-dead-end-or-the-next-blockbuster-goldmine-478987.htm).
[29] National Canine Cancer Foundation (http://www.wearethecure.org/more_cancer_facts.htm#10/ accessed 11 Aug 2015).
[30] Wells R. Top treatment for pet patients. Sydney Morning Herald, Sep 14, 2012 (http://www.smh.com.au/environment/animals/top-treatment-for-pet-patients-20120913-25uwe.html).

Pfizer's anticancer drug, Palladia®, sells for US$500 for 30 tablets, or directly from the company $300 according to one blog (http://tripawds.com/forums/treatment-and-recovery/where-can-i-buy-palladia/). Dosages depend on weight but for a 25kg animal up to 60 tablets a month could be required with initial treatment for six weeks, costing about US$1,500, and the potential to continue for extended periods.

Companies active in the companion animal cancer drug development and marketing include:

- AB Science's conditionally-approved Kinavet-CA1 tyrosine kinase inhibitor for the treatment of non-rescetible solid tumours;
- Aratana Therapeutics, Inc with monoclonal antibody her2/neu-directed breast cancer immunotherapy and treatment of T and B cell lymphoma in dogs;
- BNOAT Oncology with vitamin B12-based anti-tumor agent, known as nitrosylcobalamin (NO-Cbl);
- CanFel Therapeutics' specie specific anti-tumour antibodies;
- Functional Nutriments' cell suicide candidate;
- Karyopharm Therapeutics' Verdinexor for lymphomas;
- Oasmia Pharmaceutical's conditionally-approved Paccal Vet-CA1 (paclitaxel);
- Regeneus Limited with its autologous canine cancer vaccine Kvax; and
- VetDC's Tanovea for canine lymphoma.

Oasmia is listed on the Stockholm exchange (ST:OASM). Paccal Vet-CA1 is a nanoparticle-based paclitaxel), initially distributed by Zoetis, Inc. a veterinary drug company that was spun off from Pfizer in 2013. According to the company's recent prospectus net revenues for the six months ended October 31, 2014, amounted to SEK1.55 million, consisting mainly of Paccal Vet-CA1 sales of goods SEK1.46 million (US$170,000).[23]

Oasmia has been granted conditional approval in the US by the FDA of Paccal Vet-CA1 for the treatment of mammary carcinoma and squamous cell carcinoma in dogs. As indications of study requirements and costs involved in conducting relevant animal studies we note that *Oasmia is* planning allocation funds of approximately US$1.5 million for Phase III study in each cancer which "we estimate being able to reach approximately 20% to 25% of completion". The company also plans to allocate US$0.7 million to continue a Phase II study with Doxophos Vet the primary goal of which is to assess response rate in the treated dogs. The Company plans to spend approximately US$3.0 million on scale up of production at its contract manufacturing partner, Baxter Oncology GmbH in Germany.

The process for obtaining a marketing approval for a veterinary pharmaceutical in the US is not dissimilar to that followed for a human drug with a requirement for clinical studies. In addition, there are additional requirements to prove human and environmental safety. The five major technical sections required by the FDA are:[31]

- Target Animal Safety: this will have been adequately proven for monepantel by Novartis Animal Health and it is assumed that PharmAust can access and use this data;
- Effectiveness: PharmAust will need to conduct trials to show efficacy and these have been commenced;
- Human Food Safety: possibly not necessary for dogs but, in any event, has most likely been undertaken for monepantel;
- Chemistry, Manufacturing, and Controls: will have been done by Novartis Animal Health but an alternative source may have to validate the process, and
- Environmental Impact: this again will have been completed.

Under the Minor Use and Minor Species ("MUMS") designation in the US a veterinary product accorded a status similar to orphan designation for human drugs, making the sponsor eligible for incentives to support the approval or conditional approval of the designated drug, including seven years of market exclusivity in the US. In order to receive MUMS in the US, PharmAust may be required to show that relevant cancers occur infrequently and in less than 70,000 dogs[32] in the US each year.

Conditional Approval allows the sponsor to make the drug available before collecting all necessary effectiveness data, but after proving the drug is safe in accordance with the full FDA approval standard and showing that there is a reasonable expectation of effectiveness. The drug sponsor can keep the product on the market for up to five years, through annual renewals, while collecting the remaining required effectiveness data.

4. Risks and Advantages in Development

PharmAust is subject to the well known risks associated with pharmaceutical development and those faced by early stage, generally undercapitalised companies. Amongst the former, pharmaceutical development risks, are:

- The industry is highly regulated and marketing approvals only given when adequate safety and efficacy have been demonstrated, and there is no assurance that a novel compound, or known compound to be used in a new indication or administered via a novel route, will receive approval. The requirements may differ from country to country and the costs of conducting studies, preparing submission and translations, are significant;

- Until the compounds have been given to subjects, human or veterinary, the physiological and biochemical responses to these agents remains unknown.

[31] Minor Use/Minor Species. US Food & Drug Administration (http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/MinorUseMinorSpecies).
[32] See Reference **Error! Bookmark not defined.**.

The likelihoods of a novel compound or biologic passing through the various stages of clinical development have been analysed by a number of groups and some of these data for human anti-cancer drugs are presented in the following table:

Table 4: Published Probabilities on Cancer Drug Development

Stage	Anti-cancer Drugs Transitional Probability (Duration, months)			
	Abrantes-Metz, *et al.*[33]	**Kola & Landis[34]**	**DiMasi, *et al.*[35]**	**Hay, *et al.*[36]**
Successful completion of Phase I studies	88% (21.8)	60%	72%	63.9%
Successful completion of Phase II studies	73% (30.2)	29%	49%	28.3%
Completion of Phase III human studies	66% (48.0)	40%	55%	45.2%
Registration		70%	100%	81.7%

An overall probability of a product reaching market according to Hay, *et al*. is 6.7%. Hay, *et al*. also provides likelihoods for success from commencement of Phase I to approval for cancer subsets, such as ovarian, 4.6%; breast, 5.7%; renal, 18.4%; pancreatic, 2.3% and prostate, 5.6%. It should be noted that these are probabilities that may apply to a skilled and well-resourced pharmaceutical or biotechnology company and as such are only relevant in valuing licensing income from an established company or for valuing the IP in the licensees hands. Should PharmAust be the party that fully develops and exploits the IP, greater risk applies and the probabilities will be lower.

Risks inherently faced by early stage companies

- Drug development is extremely costly and the costs increase the further along products are progressed. Lack of capital is a major concern for all early stage biotechnology companies.

- PharmAust competes with numerous companies in the cancer therapeutics field, many of which are better resourced and financed with greater capabilities in manufacturing, regulatory affairs, and marketing and distribution. These companies are capable of rapid market entry. Where a small company creates a new market, the established firms can grab market share through price cutting and aggressive promotional campaigns, and they can fund expensive patent disputes.

[33] Abrantes-Metz RM, *et al*. Pharmaceutical Development Phases: A Duration Analysis. Bureau of Economics, Working Paper No. 274, October 2004.
[34] Kola I & Landis J. Can the Pharmaceutical Industry Reduce Attrition Rates. Nature Reviews Drug Discovery 3:711, 2004.
[35] DiMasi JA, *et al*. Trends in Risks Associated with New Drug Development: Success Rates for Investigational Drugs. Clin Pharmacol Ther 87(3):272, 2010. Data used are for Antineoplastic compounds between 1993 and 2004.
[36] Hay M, *et al*. Clinical Development Success rates for Investigational Drugs. Nature Biotechnol 32(1):40, 2014.

- PharmAust may conduct clinical trials under the guidance of a globally-operating CRO which, in itself, mitigates risk. It is also likely that the Company will seek to out-license at an early stage and rely on its partner to complete development and secure marketing approvals. Such a strategy will de-risk development for the Company. If the third parties on whom the Company relies to conduct clinical trials and their investigative clinics do not perform as contractually required or expected, market opportunities may be lost and cash flows severely compromised. Similarly, if licensees fail to adequately promote the product and advance development expeditiously growth opportunities will be damaged.

- It should be appreciated that the further PharmAust advances development the greater the value added and the greater the return. Early out-license can compromise the Company's return on investment to that point in time.

- Delays in the roll-out of the product, due to factors such as patient recruitment and slow regulatory approvals, can adversely affect the valuation.

The main risk for the projects is with the ability to secure meaningful patent protection. Those that are relevant to monepantel and the anti-mucin therapy have, as yet, to be granted in any country and it is not a foregone conclusion that they will be granted (although we have no reason to expect that they will not).

The overriding strength in PharmAust's programs is the novel use of already approved, albeit in one case only in the veterinary context, reagents. Albendazole, bromelain and NAC, the latter two commonly recognised as safe, are available for human use. Knowledge of their safety and toxicity may expedite approval processes. Monepantel is well studied in the animal context, which to a significant extent provides relevant safety data for human use, and PharmAust has advanced development with preliminary human studies.

These risks have been considered in conducting the valuation and brought to bear in the manner in which the cash flow projections have been utilized – particularly in the application of probability weightings at various stages.

An objective of PharmAust's research is to demonstrate the benefit of using its compounds to reduce the dosages of chemotherapeutics and, as a consequence, attenuate side effects associated with their use.

Entering the market through the veterinary route has a major advantage in that sales can commence quickly, through Conditional Use, and the Company generate early cash flow.

Through its collaboration with Novartis Animal Health the Company may be able to access skills, expertise and resources to move rapidly towards marketing. The relationships may also provide an inside to early licensing.

5. Intangible Assets Valuation Methodologies

The valuation of a mature company tends to follow a methodology that draws heavily on its historical income, either by performing a net present value of expected future earnings, the confidence in which derives from past activity, or capitalisation of maintainable earnings. Another technique considers the orderly realisation of assets. In the case of Pitney, the sole assets are IP and IPR&D, and there are no historical cash flows available for extrapolation and no current product sales, in fact no certainty that products will ever be sold. In isolation, individual patents may have limited value.

Epichem may be valued as a going concern and the individual approaches are discussed in Section 6.4.6.

Techniques used for valuing intangible assets, including in-process R&D ("IPR&D"), generally fall into three main categories[37]:

1. Cost Based;
2. Market Based; and
3. Revenue Based.

5.1 Cost Based Methods

There are several cost approach valuation methods, the most common being the reproduction cost method and the replacement cost method. Regardless of the type of cost being estimated (eg. reproduction, replacement or other) five components of cost are generally included in the analysis being: Materials; Labour; Overhead; Developer's Profit; and Entrepreneurial Incentive. The last factor is often difficult to estimate.

In considering historical costs as a basis for replacement or reproduction it must be assumed that all expenditure on the product's/process's development, has been targeted and cost effective (not always a valid assumption in R&D), and that another party wishing to recreate the IP does not have the benefit of the current owner's acquired knowledge nor is he precluded by patents in exploiting his "reproduction". These constraints often negate the use of historical costs. It may be argued that historical expenditures are irrelevant for IP simply because the value to an acquirer cannot be correlated with the developer's costs.[38]

The Cost Based method was therefore not employed.

[37] Reilly RF, Schweihs RP, Valuing Intangible Assets, McGraw Hill (NY) 1998.
[38] Razgaitis R. Early-Stage Technologies. Valuation & Pricing. Wiley (NY) 1999.

5.2 Market Based Methods

Techniques based on analysis of transactions between companies, equity valuations or capitalisations of comparable companies have considerable merit in the biotech sector. There are thousands of transactions taking place in the industry every year where one company licenses IP from another or enters into a collaborative venture. There are also many fund raisings, both private placements and IPOs, which may be used as analogies.

Comparison is possible only where a transaction relates to an identifiable unit of IP or platform technology that is reasonably analogous or, in the case of the value placed on a company, where that company is virtually single purpose and technically equivalent to the subject company or IP. Such criteria are often difficult to meet and comparable analyses are usually used only to support the values derived with other methodologies or to provide a "ball park" estimate. It is particularly difficult for early-stage technologies as it is not common for such companies to report private investment terms and initial public offerings ("IPO") are rare, and where such companies enter into licensing arrangements, the deal terms are often structured such that they involve future payments linked to outcomes that are highly uncertain.

5.3 Discounted Cash Flow Method

The technique most commonly employed for valuing IPR&D is based on a DCF analysis. To assume any level of credibility, the DCF must be based on sound cash flow predictions, with justifiable assumptions regarding sales estimates, expenses and revenue timings. These are then net present valued using a discount rate, often following probability adjustment, that recognises the time value of money and risks involved in achieving the forecast cash flows.

The discount rate determined by the CAPM is derived by applying the following formula:

Discount Rate = Risk Free Rate + (Beta Factor x Risk Premium)

The "Beta Factor" of a particular investment is a reflection of its risk expressed as a percentage of the volatility to that of a market portfolio, ie. a portfolio of stocks sufficiently diversified so as to reflect average market movements. The rate of return on the market portfolio will, by definition, fluctuate identically with the market and therefore its Beta Factor is one. Investments with Beta Factors lower than unity are less volatile than the market and thus would be expected to have a risk premium lower than the overall market premium.

The "Risk Premium" represents the premium over the Risk Free Rate that an investor requires to invest in the market portfolio. Typically, the risk premium associated with the equity market, as determined by the Centre for Research in Finance at the Australian Graduate School of Management, over the longer term is around 6-7%. Using the 10 year US generic yield of 2.6% and applying a Beta range of 1.0 to 1.5 a discount rate of approximately 9% to 12% nominal may be derived.

Discount rate adjustments are often used to account for risk associated with realising projected cash flows. Our generally preferred methodology for IPR&D is not to apply discount rate premiums over and above the Weighted Average Cost of Capital ("WACC"), or Capital Assets Pricing Model ("CAPM") where there is no debt, but to use a risk analysis and probability adjust cash flows.[39, 40] The procedure explicitly recognises the time profile of the risk by probability adjusting the cash flow using literature- or experience-based probabilities and applying these at the time points at which the risk is apparent. [41]

Considering that there are risks associated with PharmAust, other than the recognized pharmaceutical development risk which is reasonably quantifiable, a modest or "start-up biotech" premium is justified to provide a discount rate of around 15%.

6. Valuation Opinion

6.1 Sources of Information

We have prepared our valuation using publicly accessible information, and other technical and financial documents provided by PharmAust. Most of the assumptions on the timings and costs for the development of the various pharmaceuticals in the indicative conditions derive from published data and personal experience.

In preparing our assessment, we held discussions with:

- **Mr Robert Bishop**, Executive Director, PharmAust; and
- **Dr Roger Aston**, Executive Chairman, PharmAust.

In addition, we were provided with the following documents:

- **Monepantel Related Intellectual Property Report:** Ref: LC00082**.** Blattman A and Heuzenroeder P. Spruson & Ferguson Patent and Trade Mark Attorneys and Spruson & Ferguson Lawyers. Prepared for Pitney Pharmaceuticals Pty Ltd, 6 August 2015.
- **Preliminary Report on the Effects of Bromelain and NAC on PMP and MPM.** Research Period Covered: 2012 – October 2014. Pitney Pharmaceuticals Pty Limited. November 2014.
- **Epichem Unleashed: A Plan for Growth.** April 2015. Epichem Pty Ltd.
- **Epichem Profit and Loss Statements** for 30 June 2011, 2012, 2013, 2014 and 2015, and Balance Sheet as of June 2015.
- **PharmAust Limited Consolidated Balance Sheet and Profit and Loss** (*PAA Consol and Cashflow J15.xlxs*).

[39] Boer FP. The Valuation of Technology: Business & Financial Issues in R&D. Wiley (New York), 1999.
[40] Bogdan B & Villager R. Valuation in Life Sciences: A Practical Guide. Springer Verlag (Berlin), 2007.
[41] Aaron AV, *et al*. Assets Acquired to be used in Research and Development Activities. AICPA, New Jersey. 2013.

- **PharmAust Limited – Cash Flow Forecast** (*PharmAust Cash Flow Forecast Jul 2015 – Aug 2016.xlxs*).

- **Collaborative Research and Option Agreement between Novartis Animal Health Inc and Pitney Pharmaceuticals Pty Ltd,** dated August 14, 2012.

To examine the markets for the technology we searched DataMonitor Healthcare. We also reviewed Company and competing patents through the following on-line sources:

- European patent Office, http://worldwide.espacenet.com;

- World Intellectual Property Office, http://patentscope.wipo.int; and

- The United States Patent and Trademark Office, http://patft.uspto.gov.

Other sources are referenced throughout the report.

6.2 Share Price History and Previous Transactions

PharmAust shares currently trade at $0.07 for a market capitalization of $12.88 million. Based on the 100 day moving average of $0.012, the average capitalisation of the company is $22.08 million.

In March 2015, the Company raised $3.14 million through the issue of 400 million shares of its common stock at price of $0.00785 per share. The offering was to sophisticated and professional investors. Following issuance of the stock the market capitalization was $14.44 million.

On or about 13 August 2013, PharmAust acquired Pitney for 450 million shares and 50 million options issued as consideration to the vendors. At the time of acquisition PharmAust's shares were trading at $0.012 imputing a valuation for Pitney of $6.0 million, fully diluted.

6.3 Comparables Analysis

One Australian-founded entity with operations not dissimilar to Pharmaust is iX Biopharma Ltd which recently listed on the Singapore Catalist exchange (SI:41C) with an estimated valuation of S$240 million (US$171 million) prior to raising S$30.1 million.[42] The current market capitalization is approximately S$180 million (US$128.5 million) of which around S$27 million can be assumed cash assets.

The company is developing products in the pain field, based on generic or soon-to-be-off patent compounds, currently three in development, and owns two Melbourne-based companies, one dedicated to manufacturing iX Biopharma's products and the other providing analytical services to the pharmaceutical industry. iX Biopharma currently has no market approvals, other than a hospital-sponsored use in Western Australia, and it is unprofitable.

[42] Anon. DealStreetAsia. iX Biopharma IPO Draws String Response, Opens 7.6% Higher in Catalist Debut. July 22, 2015 (http://www.dealstreetasia.com/stories/ix-biopharma-ipo-draws-strong-response-to-begin-trading-wednesday-9406).

Oasmia Pharmaceuticals (ST:OASM) has four human oncology product candidates in pre-clinical and/or clinical development, and two veterinary oncology product candidates.[43] The company disclosed top-line Phase III data for its lead human oncology product candidate in the fourth quarter of 2014 (Paclical, for the treatment of epithelial ovarian cancer). In February 2014, it received conditional approval by the US FDA for the initial veterinary oncology product, which resulted in royalties and potential milestone payments from its commercial partner, Abbott Animal Health (subsequently acquired by Zoetis in connection with the closing of its purchase of certain assets from Abbott on February 10, 2015).

While the drugs being evaluated by Oasmia are generic, the company holds patents covering the delivery mechanism using nanoparticle, vitamin A-based micelles. There are five patent families, all granted in the US and two of which are granted in EU.

The company's current market capitalization is SEK1.75 billion (US$200 million).[44] For the 12 months to 30 April 2015, income was SEK18,000,000 (US$2,079,000) and loss, SEK117,000,000 (US$13,513,000). Net tangible assets were SEK376 million (US$43.4 million). Yahoo Finance estimated Enterprise Value at 12 August 2015 at SEK1.82 billion (US$210 million).

Because of the more advanced state of Oasmia's product development programs, the fact that it has a conditional approval to market a veterinary product and has a licensing deal in place, along with granted patents, we would consider that the current enterprise value of the company, A$284 million, is in excess of what we'd expect for PharmAust.

Other market capitalization-based comparables are listed in Table 5.

Based on the analysis of these companies and their drug development programs, we estimate a possible valuation range for entities with programs similar to that of Pitney of up to $200 million based on iX Biopharma and Oasmia. While the less highly valued Australian entities reflect the reality of the local stock market they must be considered indicative for PharmAust which is listed on the ASX. Bionomics may be at the high end while we would propose that Regeneus, Circadian and Nexvet are well below expectation considering their limited numbers of candidates.

[43] Oasmia Pharmaceuticals AB. Preliminary Prospectus and Registration Statement (Form F-1) filed with US Securities and Exchange Commission July 6, 2015.
[44] Yahoo Finance (https://au.finance.yahoo.com/q?s=OASM.ST&ql=1/ accessed 12 Aug 20150.

Table 5: Companies with Technologies at Similar Stages of Development

Company	Market Cap. ("MC) Ent'prise Value ("EV")	Comparables	Differences
Regeneus (AX:RGS)	MC = $23.0 mil. EV = $16.9 mil.	Two Phase I human products. One veterinary in marketing trials and two others in trials. Company loss making.	Cell therapies with small track record of approvals.
Aratana Therapeutics (NASDAQ:PETX)	MC = US$608 mil. EV = US$539.8 mil.	18 veterinary product candidates with ten in pilot or pivotal trials. Minor income and loss making.	No human products. Larger portfolio and products more advanced.
Bionomics (AX:BNO)	MC = $177.7 mil EV = $163.9 mil	One cancer product Phase II, two at preclinical. One cancer stem cell product to commence Phase I and two neurological products in early trials.	More candidates in trials but no short term cash flow through veterinary or service business.
Circadian Technologies (ASX:CIR)	MC = $31.5 mil EV = $12.1 mil	Two human product in Phase I trials for cancer, one as combination with existing drug.	Novel chemicals. No profitable subsidiary. Limited number of candidates in development.
Nexvet Biopharma (NASDAQ:NVET)	MC = US$52.8 mil. EV = -US$2.7 mil.	One canine pain product in trials and an inflammatory diseases product in development.	Biologics and no clinical applications.

Considering mergers and acquisitions, Australian drug developer Fibrotech Therapeutics Pty Ltd was recently acquired by Shire Plc for an upfront payment of US$75 million and certain contingent payments based on the achievement of development and regulatory milestones.[45] Fibrotech was repurposing a class of drugs to prevent various forms of fibrosis. The leading product, FT011, had completed a Phase Ia study in healthy volunteers and was, at the time of acquisition, in a Phase Ib study in patients with diabetic nephropathy.

The following table (Table 6) presents the terms of mergers and/or acquisitions that took place in Australia in recent years.

[45] Fibrotech Acquired by Shire for US$75M Plus Milestones. Fierce Biotech, 2 May 2014 (http://www.fiercebiotech.com/press-releases/fibrotech-acquired-shire-us75m-plus-milestones).

Table 6: Mergers and Acquisitions of Australian Drug Developers

Company	Merged / Acquired	Date of Transaction	Value at Merger / Acquisition	Tangible Assets[1]	Enterprise Value[2]	Program Status at time of Acquisition
Spinifex Pharm.	Novartis AG	Jul 2015	$264m	N/A	$264m	Phase II trials in patients with post-herpetic neuralgia complete.
Fibrotech Therapeutics	Shire Plc	May 2014	$85m +	N/A	$85m +	Completed one Phase I study
C-Bio Limited	Inverseon, Inc.	Sep 2012	$16.5m	$6.0m	$10.5m	Two compounds in Phase II
Cytopia Limited	YM Biosciences Inc (Toronto, Canada)	Oct 2009	~ $13.9m	$3.0m	$10.9m	One product in Phase II trial for brain tumours and another recruiting Phase I.
Peplin Biotech	Leo Pharmaceuticals (Denmark)	Nov 2009	$288m	$1.9m	$286m	Phase II study in actinic keratinosis (skin cancer) complete.
Arana Therapeutics	Cephalon International Holdings, Inc. (USA)	May 2009	$318m	$175m	$143m	Many products in preclinical for cancer and one in Phase I trial for rheumatoid arthritis.
EvoGenix Limited	Peptech Limited	Aug 2007	$156m	$8.4m	$148m	Contracts to develop humanised antibodies & discovery level human therapeutics.
Zenyth Therapeutics	CSL Limited	Oct 2006	$104m	$39.6m	$64.4m	Two antibodies in pre-clinical development, others in Discovery mode.

[1] Net Tangible Assets less Recognised Intangibles, from prior year's Annual Report of target company (company websites) or subsequent year's Annual Report of Acquirer.
[2] Difference between Acquisition Price and Tangible Assets.

The prices paid, perhaps with the exceptions of C-Bio and Cytopia which were both financially stressed at the time of acquisition, can be classified as strategic investments suggesting a premium was paid in excess of the companies' or technologies' true values. Thus, if we exclude these two companies, the average price paid was $165 million and deducting 25% as a reasonable control premium, $124 million.

6.4 Revenue Based Analysis

Individual cash flow models have been prepared for the following products and drugs and indications (it should be noted that spreadsheets are in USD):

- Monepantel for ovarian cancer (Attachment I);
- Monepantel for breast cancer (Attachment II);
- Monepantel for pancreatic cancer (Attachment III);
- Albendazole for malignant ascites (Attachment IV);
- Anti-mucin combination drug for mucinous adenocarcinoma (Attachment V);
- Monepantel for canine cancers (Attachment VI);

We have concentrated only on the developed world markets due to the advanced healthcare systems capable of funding such interventions and more precise knowledge of numbers undergoing treatment. It is likely that many Latin American and Asian countries will be able to afford the proposed drugs and combinations due to a lower cost of treatment relative to newer biologics and their inclusion would have the effect of increasing the valuations.

The valuation date is 30 June 2015. The analyses are in constant 2015 dollars and no consideration has been allowed for inflation. The discount rates are therefore real.

Financial projections have been developed based on the available information for the residual life of the later of the current patents with, in some cases, an assumed extension of three years being available for drugs undergoing development following a regulated pathway.[46]

Time frames for clinical trials, approvals and market launch are based on realistic schedules, generally from knowledge obtained from examination of clinical trials on the NIH website, *clinicaltrials.com*, for the same indications or similar therapies in other indications. Cash flows have been probability adjusted in accordance with accepted principles and using published approval rates for the relevant indications.

Models have been prepared for licensor and licensee cash flows on the premise that PharmAust will seek a partner following adequate proof of efficacy in human trials, in this case following Phase II studies.

[46] There may be available additional terms of up to five years resulting from patent extensions in the major pharmaceutical markets. For example, in the US a patent extension is available under the Drug Price Competition and Patent Restoration Act (1984) also known as the Hatch-Waxman Act. The Act restores a portion of the patent term during which the patentee is unable to sell or market a product while awaiting government approval, such as the FDA's review of a prescription drug. Similar legislation is available in other key markets including Europe

6.4.1 Monepantel in Cancer

Ovarian Cancer

The following assumptions apply to the ovarian cancer modelling:

- We have consulted the Globocan database to determine that there are approximately 23,400 newly diagnosed cases of ovarian cancer in North America each year, 44,500 in Europe (EU28) and 31,500 in the rest of the developed world. Prevalence data as presented in Attachment I also derives from Globocan for the developed world.

- The rate of growth in incidence is 2.0% per annum.

- Market penetration of the incident population is based on 90% of cancers being epithelial, 35% of these commencing chemotherapy and 25% using monepantel, or 9.7% (90% x 35% x 25%).

- The prevalence population grows at approximately the population growth rate. Penetration is assumed to be higher than for the incidence group, at 12%, as more patients progress to chemotherapy and to second line treatments. However, as patients receive effective treatment or succumb to the disease the available pool declines rapidly and this is reflected in the decline in sales from peak.

- The average selling price of monepantel is US$10,000 in North America and US$8,000 in other markets in the low-side valuation estimate, and US$15,000 and US$12,500 in the US and the rest of the world in the high-side estimate.

- Once a product is launched, sales take three years to reach peak penetration. Sales hold steady, other than as a result of growth in incidence, to decline after five years at 5% pa.

- Sales continue until expiry of patent WO2014/022879 in August 2033.

- Pitney will conduct a Phase 1b/IIa trial as combination drug, at its expense (US$750,000), over the coming 12 months under CTN prior to out-licensing.

- A licensing partner will apply for an IND in the US, and/or equivalent in Europe, taking one year to obtain approval and complete a second study followed by three years for a pivotal Phase III study. The IND and studies will be funded by the licensee.

- There is a further 12 months required for the regulators to give marketing approvals.

- Patient numbers for the trials are 100 Phase II and 300 Phase III with per patient costs of US$60,000 and US$75,000 respectively.

- COGS is 31.8% of selling price based on an analysis of industry averages for major drug companies including anti-cancer producers (analysis presented in Attachment VIII).

- Selling, General and Administrative ("SG&A") expense to the licensee is 30.3% of selling price. Myers and Howe[47] report an average of 30% but, as a crosscheck, we determined the average of a representative list of pharmaceutical companies which gave an average of 30.3% for combined selling and administrative costs.

- Although a company's R&D expenditure as may be presented in annual reports is not relevant to already marketed drugs, DiMasi, *et al*.[48] found from a survey of ten multinational pharmaceutical companies that approximately 15% of overall R&D expenditures are related to improvements to drugs that have been approved. Hence, we have added a further 2.2% (15% of 14.6% of turnover spent on maintenance R&D) to overheads.

- We have included on the licensor side 0.5% of revenues as administrative cost subsequent to out-licensing to cover accounting and audit charges, and general office expenses.

- Royalties are receivable from the licensee with the amount adjusted to achieve an approximately 33.3% split in NPBT. Thus our model computes royalties of 9.8% of sales revenue for sales below US$250 million and 10.8% for sales in excess of US$250 million. Monepantel as used for ovarian cancer is the same product as for second and other cancer types, and the price, and hence royalty rate, is consistent and the (assumed same partner) split is determined across both indications.

- Regulatory dossier preparation and submission has been assumed to be US$2.5 million for the USA and Europe;

- Post market surveillance has been included at US$2.0 million and assumed to be spent, or committed, over the first year following sales introduction.

- PharmAust's profit is taxed at the Australian rate of 30% with losses carried forward.

- The cash flows have been risk adjusted with cumulative probabilities applied at the time points where stages are completed. Table 4 lists probabilities for cancer drugs available from the literature. The figures we applied are the most recent as published by Hay, *et al*.: 28.3% for Phase II, 45.2% for Phase III, and 81.7% for registration.

- The modelling shows product sales commencing in 2021 and growing to around US$350 million pa (non-probability adjusted). The probability adjusted cash flows are also presented in Attachment I. They show expected revenues will approach US$35 million pa once peak penetration has been achieved. Unadjusted royalties received by Pitney are estimated to peak at US$52 million with expected royalties, US$5.5 million.

[47] Myers SC & Howe CD. A Life-cycle Financial Model of Pharmaceutical R&D. Sloan School of Management. WP #41-97, April 1997.
[48] DiMasi JA, Hansen RW & Grabowski HG. The Price of Innovation: New Estimates of Drug Development Costs. J Health Econ 22:151, 2003.

- A discount rate of 15% has been applied to both Pitney's cash flow and the licensee's. A reasonable WACC for an established pharmaceutical company with no debt is currently about 8% and as the licensee will be controlling development and cash flows this may well be the appropriate rate to use. The usual discount rate for a startup biotech company is between 12% and 15% after probability adjustment. The methodology of splitting net benefits requires that a common discount rate be used and the models use 15% (in the absence of probability adjustments, the "effective discount rate" is 42.7%.

- Following apportionment of benefits on a pre-tax basis, Pitney's profit is taxed at the Australian rate of 30% with losses carried forward to determine an after tax valuation.

Applying a discount rate of 15% to the probability adjusted before tax cash flows for the licensee yields a valuation of approximately US$9.539 million and for Pitney, US$4.762 million. The combined amounts result in a before tax valuation of the IP in this indication of US$14.301 million.

The after tax valuation of Pitney's benefit is $3.883 million (US$2.873 million) at the low price point and $6.669 million (US$4.935 million) at the higher price estimate.

Breast and Pancreatic Cancers

For subsequent applications of the monepantel IP we have, through consultation with the Company, selected breast and pancreatic cancers. Breast cancer clearly offers a much larger market, albeit more highly contested, while pancreatic is smaller in incidence but with few successful treatment options available.

The model for breast cancer is presented in Attachment II and pancreatic in Attachment III, and follows the same philosophy as applied to ovarian cancer. In this case, a licensee-sponsored IND for a Phase Ib//IIA or Phase II does not commence until the equivalent study in ovarian cancer has been completed – a delay of two years. Subsequent time frames for trials are similar requiring five years for the Phase II and Phase III trials and regulatory approval.

The treatable population is 25% of incident patients receiving chemotherapy and 25% penetration by monepantel, 6.25%. In the prevalence pool, penetration is reduced to 3% due to the generally better outcomes and longer survival in cancer patients.

Transitional probabilities are affected by success with the first indication. Thus, the likelihood of commencing a Phase II study is 28.3%. Having successfully completed a Phase II in ovarian cancer, the likelihood of success for breast cancer is elevated to 90%, with Phase III and approvals as for other cancers, 45.2% and 81.7% respectively.

The analysis supports an after-tax valuation for monepantel in breast cancer, as a second approval, of $19.869 million (US$16.626 million) to $32.273 million (US$23.882 million).

The assumptions for pancreatic cancer, other than incident populations, are the same as for the breast cancer model. In this instance we have no included the prevalence pool as they are generally difficult to treat and are more likely to be on palliative care or more aggressive treatment options.

Development time frames align with those for breast cancer as it is reasonable to expect that a licensee will confidently progress development concurrently once positive results have been obtained with ovarian cancer.

Our estimates for after tax valuations for pancreatic cancer as a second indication are $1.662 million (US$1.230 million) to $2.599 million (US$1.923 million) and low and high product pricing.

6.4.1 Sensitivity Analysis on the Monepantel Cancer Models

As a number of parameters that are included in the modelling are, at best, estimates and may change with time and as development advances, we subjected these to a perturbation analysis. Various inputs were adjusted by plus or minus 10%, or time frames extended or brought forward by 12 months while retaining the 33.3% benefit apportionment. The fixed apportionment was achieved by adjusting the royalty rates. The impact of increasing or decreasing the split was also examined separately. The findings are presented in Table 6.

A number of variables have an approximately proportional effect on the valuation: market size, selling price or peak penetration; COGS and SG&A, and probability of success. It is therefore important that the estimates be as reliable as possible. Much of the market data is based on published information but at this stage it is difficult to be prescriptive about market penetration or the likelihood of success. The price estimates are, in our view reasonable, particularly as we have allowed for lower prices outside of the US (not included as part of the sensitivity analysis).

Clearly, discount rate has an important impact on the valuation – a lower rate providing a higher valuation. We have chosen a figure that may be reasonable for an Australian biotechnology company (following consideration of likelihoods of success). However, the weighted average costs of capital ("WACC") for big pharma are considerably lower than the figure used. A lower figure could reasonably be applied to the licensor valuation but we are comfortable that 15% as applied to PharmAust encompasses risks associated with ongoing funding while development is under its management and a potential loss of control while under the licensee's administration.

We have chosen to be conservative and use low probabilities which is in line with recent data on cancer drug development. Monepantel has shown strong anti-tumour activity in cellular, animal and early human studies with a positive safety profile. However, the transition of pre-clinical experience with anti-cancer drugs to human studies remains a high risk endeavour.

A major risk with all R&D programs is that of delays to completion. In this instance a 12 month delay to marketing approval decreases the valuation by 15% and a delay is more likely than early completion. One reason for choosing ovarian cancer as the initial indication is that orphan status (fewer than 200,000 patients in the US) can be used to expedite approvals.

One of the important aspects of the current modelling is the splitting of benefits 1:2 between developer and licensee. A rule-of-thumb states that a multiplier of four, or 1:3 split, between the inventor and commercialising entity be applied (25% rule) and, in our opinion, it is unlikely that better than one third will be achievable prior to completion of a Phase II study under IND. Plus or minus 10% change to our proposed mix adds or removes about 10% to the value.

Table 6: Sensitivity Analysis on Key Variables in Low Price Valuation

Variable	Impact		Comment
	Valuation A$'000	Variance	
Base Valuation	**25.413**		
Discount Rate: +10% -10%	 24.041 30.267	 -15.4% +19.1%	
Probability (Phase I/II ovarian) +10% -10%	 28.158 22.897	 +10.8% -9.9%	Currently on low side. Improved outcome possible.
Market Share or Population Increase +10% -10%	 29.022 22.160	 +14.2% -12.8%	Greater share possible.
Numbers of Trial Subjects or Cost of Trials +10% -10%	 25.386 25.458	 -1.1% +1.8%	Could go either way depending on efficacy.
COGS +10% -10%	 22.846 28.106	 -10.1% +10.6%	It is likely that COGS will be lower as already manufactured in bulk.
SG&A expense +10% -10%	 22.862 28.158	 -10.4% +10.8%	Choice of partner may influence.
Tax Rate +10% -10%	 24.574 26.531	 -4.3% +4.4%	Unlikely to change as long as PharmAust remains Australian.
Split between Licensee & Licensor +10% -10%	 27.980 22.897	 +10.1% -9.9%	Subject to negotiation.
Development Time Delay 12 months Advance 12 months	 21.550 30.216	 -15.2% +18.9%	Delays more likely to be expected.

There is a strong likelihood that PharmAust will obtain an extension to the main patents, and this could be for up to five years or longer where the indication is considered orphan, such as ovarian cancer. The effect of an extension is a higher valuation. We have not included any extension or market exclusivity for monepantel as such extensions may not be allowable where there is an earlier patent covering the compound itself and the current claims are for new uses.

6.4.2 Albendazole

The selected indication for valuation of albendazole is malignant ascites. The model is presented in Attachment IV and follows the same format as used for monepantel.

As determined by Ayantunde, *et al*. malignant ascites is common in a number of cancers with ovarian, pancreatic and gastric being most common.[11] Although other cancers which present with ascites have higher incidences, the lower rates of concomitant ascites reduce the available markets. To avoid an argument of cannibalisation of ovarian patients treated with monepantel, we have modelled pancreatic and gastric (all three cancers having cancer associated ascites incidences in developed countries around 30,000 to 40,000 per annum). Ayantunde, *et al*. point out that the median time interval between the diagnosis of the cancer of origin and that of the ascites was 0.87 (0–341) months ("*In fact, 54% of patients had their ascites at first diagnosis of their cancer and the median of 0.87 (not zero) months represents a delay in diagnostic investigations in a few patients*"). For this reason we concentrate only on incident patients.

The uptake of treatment in pancreatic patients is 25% of the 21% who get ascites, 5.3%, while in gastric cancer it is 25% of the 18.3% presenting with ascites, 4.6%.

Average selling price is assumed US$10,000 to $15,000.

The term of a licence is expiry of WO2006/024092 with a three year extension.

A licensing partner will apply for an IND for the first indication, pancreatic cancer, and undertake a Phase Ib/IIa study over two years with 50 patients at US$60,000 per patient.

A Phase III study will require 200 patients at US$75,000 will take three years and the regulatory body a further year for a launch in 2020.

The second indication, gastric cancer, will require 100 patients and take an additional two years before approval.

We have increased the likelihoods of transition through the various stages of development because the product has a long history of both animal and human use (although there are no approved formulations for intravenous or intraperitoneal administration). The model assumes 45% likelihood for successful completion of the Phase II study, 50% for Phase III and 90% for approval.

Again, the product is licensed prior to the Phase II study with the licensee paying costs beyond that time point.

Product sales reach US$120 million in 2026 at the low price point.

With a 33.3% apportionment of net pre-tax benefit to Pitney, the modelling yields a royalty of 8.3% and a valuation in the Company's hands of $5.472 million (US$4.049 million) after tax to $9.438 million (US$6.984 million).

6.4.3 Mucin

The analysis is based on 10% of gastric cancers having mucinous carcinoma with a further 8.7% having SRCC, while 4.7% of colorectal cancers are mucinous.

The assumptions relevant to the model are:

- Incidence data for gastric and colorectal cancers in developed countries is taken from Globocan.
- The incidence of mucinous adenocarcinoma and SRCC among gastric cancer patients is 18.7% and those prescribed the bromelain / NAC combination with or without a cytotoxic is 25%.
- The incidence of mucinous adenocarcinoma in colorectal cancer patients is 4.7% and those prescribed the combination treatment is 25%.
- The average selling price for a combination drug is US$10,000 in the US (price does not include cancer drug) and $8,000 in other parts of the world - tolerable because of the poor outcome for these patients. The upper bound on the valuation is based on average selling prices of US$15,000 and $12,500 in the US and the rest of the world respectively.
- The term of a licence to the patents is based on expiry of WO2014/094041 with a three year extension, to late December 2036.
- Pitney will undertake a preliminary study under CTN in Australia over 12 months prior to licensing.
- Development by the licensee requires one year for a Phase II study under IND (approved drugs into an orphan indication) with 50 patients and a Phase III study with 100 patients over two years.
- The second indication is delayed by 12 months and requires 50 patients for a Phase III validation.
- As the constituent agents are simple extracts or compounds and readily available, the COGS is 25%.
- Data suggests better than average efficacy with reasonably understood safety profiles and a 50% likelihood of success in Phase II is included.
- Again the Phase III outcome is likely to be superior to a novel cancer therapy and the likelihood has been increased above average by 5% to 50%.
- Either in combination with a common cancer drug or without, we'd expect a positive regulatory response and the likelihood has been estimated at 95%.
- With a 33.3% apportionment of net benefit to Pitney, the royalty rate is 13.0%.

The modelling demonstrates annual revenues peak at almost $242 million at the lower selling price, peaking in 2023 with a probability adjusted valuation for Pitney of $14.155 million (US$10.475 million) and up to $22.765 (US$16.846 million).

6.4.4 Monepantel for Canine Cancer

The financial model for monepantel in veterinary cancer is presented in Attachment VI. It is based on estimated numbers of dogs in the US, Europe and other developed parts of the world. The key assumptions in the model are:

- The estimated market for cancer treatment assumes that 25% of dogs develop cancer of some form and that 3% will receive pharmaceutical treatment in the US, 2.5% in Europe and 0.5% elsewhere. In the first instance Conditional Approval is granted in the US and Europe for a leading cancer which constitutes 25% of cancer incidence (for example, breast cancer in bitches is 50% of all cancer occurrences). Full approval for all cancers is issued 12 months later following additional studies.

- Considering the number of products in development by others, we have assumed 10% market share.

- The selling price per course at the base level is US$2,000 and US$2,500 at the high price point with a 40% of price COGS (approximately equivalent to the human product on an equivalent body weight basis).

- A Phase II trial in a single cancer takes one year at a cost of US$1 million at which time Conditional Approval is granted. This is funded by the licensee. The model has a 12 month lag prior to commencement of the study while Pitney extends its current trials, finalizes formulation and negotiates a licence.

- A Phase III for Full Approval requires two years and costs US$3.75 million.

- Obtaining marketing approvals in major regions costs US$1.0 million.

- As the product has been safely used in animals for some time and the early data (both animal and human) relating to cancer therapy is compelling, the assumed probabilities of success in both the first indication study and the expanded study are 60%.

- Again, as the chemical has been approved for animal use and there is extensive data on its safety, the regulatory approval likelihood is assumed high, 95%.

- The split between licensor and licensee is 33.3%.

Sales of monepantel in the veterinary market reach US$240 million and, at an estimated royalty of 8.8%, the after tax valuation range is $18.219 million (US$13.482 million) to $22.919 million (US$16.960 million).

6.5 Epichem

There are several techniques available for valuing companies, including those with strong future prospects and rapid growth. These include: comparable transactions, past share performance, orderly realisation of component parts, capitalisation of the estimated maintainable earnings or the risk adjusted NPV of future cash flows as described in Section 5.3.

Share Price History

Shares in Epichem are not publicly traded and management has advised that no shares have been issued or transferred between parties in recent years. Share history provides no guidance in regards to the valuation.

Net Assets

The unaudited balance sheet as at 30 June 2015 discloses net assets of $616,096. Epichem is not likely to cease operations and the NTA is a poor indicator of the value of the business as a going concern.

Epichem has Retained Losses of $433,904 as at 30 June 2015 that may be applied against future profits. These have no assured value to a prospective buyer unless the "same business" test can be demonstrated.

Orderly Realisation of Assets

The amount that would be available to shareholders on an orderly realisation of assets is based on the assumption that a company is liquidated and funds are available for distribution following payment of all liabilities. The method generally ignores the ability of the asset base of the business to generate ongoing future earnings at a level sufficient to justify a value in excess of the value of its tangible assets and, conversely, a number of assets may be diminished in value if not sold as complementary units.

A valuation based on the sale of assets assumes that plant and equipment can be sold on the open market at their written down value and stock can be sold at wholesale price. We have not undertaken an individual appraisal of assets and accept that the NTA of $616,096 is reasonably representative.

Epichem is not in the position that it is required to sell down its assets and its worth should fairly be based on an analysis as a going concern. As such, the Orderly Realisation method may not relevant in the current circumstance.

Capitalisation of Future Maintainable Earnings

The validity of the direct capitalisation method depends on the ability to estimate some reasonably credible level of normalised economic income for the Company that can be considered sustainable.

The method involves capitalising the maintainable earnings at a multiple which reflects the risks of the business and its ability to earn future profits. The traditional method is to use net profit after tax and multiply it by an industry derived Price to Earnings Ratio ("PER"). Earnings for an ongoing business are often weighted towards the most recent results (ie. if five years are available, 5 times most recent full year, 4 times the previous year, 3 times two years prior, etc. divided by 5+4+3+2+1=15) thus bringing to bear the greater relevance of recent performance.

We considered Company financials for the five year period 1 July 2010 to 30 June 2015 and determined a weighted average of Net Profit Before Tax as $67,623 (see Table 7).

Table 7: Net Profit 2011 to 2015

Year	2011	2012	2013	2014	2015
NPBT[49] ($)	-122,087	107,778	84,770	114,389	-7,033

PER multiples are generally applied to Net Profit After Tax but, because the Company has significant carried forward losses, no tax has been payable by the company. In the event the company was to pay tax on the weighted average NPBT at the current tax rate of 30% and ignoring retained losses, the weighted NPAT would be $47,336.

PER ratios of ASX-listed laboratory services companies include ALS Limited, 16.0; Sonic Healthcare Limited, 21.7; and Pacific Environment Limited, 10.6.[50] Applying a PER range of 10.0 to 16.0 suggests a valuation of $473,360 to $757,376.

Yahoo presents average PER for companies in the Medical Laboratories and Research category of 35.4 and Research Services, 49.9.[51] We consider such PER ratios to be too high for Epichem as it is smaller, less diversified, and has limited capacity relative to the majority of listed companies, and is currently privately owned.

Estimate of Goodwill

One approach to the determination of goodwill requires a multiplier calculated as follows:

$$(Av.net\ earnings - Cost\ of\ capital) \div Gross\ earnings \times 100$$ [52]

Again using financial information for the past five years the average net earnings were $84,398 and average gross earning $1,752,780. The capital invested (property, plant and equipment, and stock on hand from 2013 balance sheet) was $601,408 and, assuming a long term rate of 6.5%, the Cost of Capital was $39,092.

The above equation provides a goodwill multiplier of 2.58.

[49] Our estimates of NPAT may differ from the Financial Statements in that we have removed non-operational items such as interest received/paid and foreign currency gains/losses.
[50] 2013 Actual PER. InvestSMART (http://www.investsmart.com.au).
[51] Yahoo (http://biz.yahoo.com/p/s_conamed.html).
[52] LM Callard & WJ Pallot. Business Valuation Practice. The Law Book Company (North Ryde, NSW) 1994.

Goodwill is therefore 2.58 x ($84,398 - $39,092) = $116,889. Adding this to the NTA, $616,096, provides a valuation of $732,985.

Comparable Transactions

A market value estimate may be derived by analysing similar businesses or intangible assets that have recently been sold or licensed, or invested into, and comparing those assets to the subject entity. Market capitalisations of publicly traded companies are a good indicator of worth of an entity and may represent suitable comparators where the listed company has similar technology or offers similar services and is of comparable size and profitability.

Our searches failed to identify any suitably analogous entities or transactions, size of operations and private ownerships being problems, and the method was not used.

Alternate Acquirer

The value of an alternative offer to acquire the shares in Epichem is a relevant valuation methodology that may be applied in the present circumstance.

We have been advised by PharmAust that there have been no meaningful offers in recent years and there has been no intention to solicit such offers.

Net Present Value of Future Cash Flows

The general principles underlying a DCF analysis is presented in Section 5.3. In preparing our analysis we, in one model, extrapolated cash flows for the past five years based on average annual growth or linear regression growth with assumed sustainable expense as a fraction of revenues.

The other approach is to use Epichem's projection. Epichem has a Business Plan which sees considerable growth in revenues through both fee-for-service research and development of its own IP. The Plan presents projections to 2021.

In both models we have included Retained Earnings (actually losses, enabling a carried forward tax benefit).

Company revenues have grown at an Average Annual Growth rate of 7.7% since 2010/11. A linear regression model based on the full five years suggests ongoing year-on-year growth of around 5.6%. There has been a trend towards stronger growth over the last three years and the linear regression model based just on this period has been adopted as more representative of future potential.

In both the linear regression and Business Plan scenarios, we have developed cash flow projections covering a six year horizon through to 30 June 2021 (as per the company's Business Plan). The valuation date is 1 July 2015. A residual value has been applied beyond 2020/21 by capitalising the final year's cash flow.

Linear Regression Modelling

Revenues are based on extrapolation by linear regression of the revenues for the past three years (see Table 4). Operating expenses, which excludes depreciation, have historically been approximately 91% although higher in 2014/15 due to an expanded labour force. The model assumes expenses hold steady at 90% of revenues and capital expenditure is $50,000 per annum. Essentially, this is a limited investment, limited growth model

Tax is payable at 30% of profit with losses carried forward to profitability.

Table 8: Linear Regression Model Projections for Epichem

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Revenues	2,238,812	2,418,764	2,598,716	2,778,668	2,958,620	3,138,572
Operating Exp.	2,014,931	2,176,888	2,338,844	2,500,801	2,662,758	2,824,715
NPBT	**148,881**	**161,876**	**174,872**	**187,867**	**200,862**	**213,857**
Tax	0	0	15,518	56,360	60,259	64,157
Capital Expense	50,000	50,000	50,000	50,000	50,000	50,000
Cash Flow	**173,881**	**191,876**	**194,354**	**171,507**	**185,603**	**199,700**

The NPV by this approach at an after tax discount rate of 10% is $1.315 million.

Business Plan Valuation

Revenues and expenses are extracted from the Business Plan, being the lower of the two projected models (see Table 5). In comparison to historical cash flows this is a plan for growth through more targeted marketing and in-house research.

The company will need to borrow $1.5 million for this Plan to be implemented and, as presented in the Business Plan and adopted in our cash flow forecast, this occurred prior to 30 June 2015. A repayment schedule is presented in the Plan for full repayment over four years commencing in 2016/17. We have assumed a 6.5% interest rate on outstanding amounts and any residual interest repaid in the fifth year, ie. 2019/20. Interest repayments are tax deductable.

Table 9: Business Plan Cash Flow Projections for Epichem

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Revenues	2,553,750	3,081,113	3,657,607	4,475,176	5,795,629	8,023,821
Operating Exp.	2,522,560	2,866,136	3,251,559	3,465,742	4,217,639	4,955,979
Interest on Loan	0	201,338	95,962	82,699	40,950	17,612
NPBT	**-38,810**	**-56,361**	**234,086**	**840,735**	**1,431,040**	**2,904,230**
Tax	0	0	0	163,724	429,312	871,269
Capital Expense	50,000	30,000	60,000	100,000	200,000	400,000
Loan Principal	0	23,663	204,038	642,301	359,050	270,949
Cash Flow	**-18,810**	**-40,023**	**46,048**	**20,710**	**548,678**	**1,508,012**

In order to determine a residual value, we have extrapolated cash flows an extra year to remove the influence of the loan.

The NPV by this approach at an after tax discount rate of 35% is $1.747 million.

Epichem Valuation Opinion

A summary of the applicable valuation methodologies that we considered in valuing TBPL are tabulated below:

Table 10: Summary of Epichem Valuations

Method	Low Estimate $'000	High Estimate $'000
Net Assets (at 30 June 2013)	616	616
Capitalisation of Maint. Earnings	473	757
Est. of Goodwill + NTA	733	733
Discounted Cash Flow (extrap. of historical)	1,315	
Discounted Cash Flow (Business Plan)		2,255

Based on the various valuation approaches, the suggested valuation is in the range $1,315,000 to $2,255,000 where retained losses are included, based on an extrapolation of past performance and the Company's own business plan respectively.

The Business Plan is an expectation of what management may achieve in coming years with a strengthening of business focus and access to adequate capital to implement change. We see this as an optimistic valuation and have used a discount rate of 30%.

7. Summary & Discussion

The following Table summarises the after tax values of the Pitney IP in the selected indications and Epichem as a going concern:

Table 11: Assessed Values of the PharmAust IP and Epichem

Drug	Indication	Low Valuation $'000	High Valuation $'000
Monepantel	Ovarian Cancer	3,883	6,669
	Breast Cancer	19,869	32,273
	Pancreatic Cancer	1,662	2,599
	Canine Cancer	18,219	22,919
Albendazole	Malignant ascites	5,472	9,438
Anti-mucin combination	Mucinous carcinoma	14,155	22,765
Epichem		1,315	2,255
	TOTAL VALUATION	**64,575**	**98,918**

Table 12 presents some of the pharmaceutical modelling outputs including the royalty rate to achieve the appropriate distribution between licensor and licensee, peak sales at the nominated selling prices and likelihoods of success.

There are generally two broad-brush approaches to the preparation of a DCF for an early-sateg company or technology developer, being (i) to assume that the company/researcher undertakes all development and exploitation itself, in which case modelling includes production, marketing and administrative costs as well as full development expenses, or (ii) a licensing model in which income derives from milestone payments and royalties and there are no significant expenses once the IP has been licensed out.

In a licensing arrangement, the royalty rate is negotiated such that the buyer realises a level of return which ensures he can operate profitably even under the most adverse of circumstances and compensates for the risks he has taken in commercialising the IP. Rules-of-thumb suggest that an early stage technology licence should be based on a 75% apportionment of total gain because the commercialising entity faces significant hurdles, whereas in a late-stage licensing deal he may realise considerably less. Recent trends in pharmaceutical licensing show that in some instances a 50:50 deal is struck where the project is completely derisked, for example where Phase III trials have been completed.

Table 12: Relevant Valuation Parameters for Pharmaceutical Programs (currency amounts USD)

Drug	Status	Launch Year (4Q)	Average Selling Price	Peak Sales (unadjusted)	Royalty Rate	Likelihood of Approval	Total IP After-tax Valuation*	Apportionment to PharmAust	PharmAust After-tax Valuation
Monepantel Human	Phase I as monotherapy complete.	2021 ovarian, 2022 breast & pancreatic.	$8,000 - $10,000 $12,500 - $15,000	$1,833 mil $2,822 mil	9.4% 9.5%	10.5%	$56.5 mil $92.2 mil	33.3%	$18.8 mil $30.7 mil
Monepantel Veterinary	Initial dog study ongoing.	2019	$1,750 - $2,000 $2,000 - $2,500	$241 mil $300 mil	8.8% 8.9%	34.2%	$40.5 mil $50.9 mil	33.3%	$13.5 mil $17.0 mil
Albendazole	Two Phase I studies completed	2020	$10,000 $15,000	$213 mil $320 mil	8.3% 9.3%	20.3%	$12.1 mil $20.9 mil	33.3%	$4.0 mil $7.0 mil
Anti-mucin	Pre-clinical	2020	$8,000 - $10,000	$228 mil $353 mil	13.0% 13.1%	23.8%	$31.2 mil $50.7 mil	33.3%	$10.5 mil $16.9 mil

* Total valuation is the sum of the valuations for licensee and licensor with inter-company payments cash neutral. It assumes that the licensee pays tax at 30% of NPBT with no carried forward benefit.

A full development model should include in the analysis capital expenditure for a production facility, or an additional margin on COGS where contract manufacturing is anticipated, and working capital. In addition, a small company will not have the economies of scale in production, marketing and administrative overheads available to an established pharmaceutical giant. The likelihood of successfully taking development through clinical trials and regulatory approvals is potentially lower for a small company relative to big pharma. For this reason a valuation based on full exploitation using typical big pharma costs and probabilities is not realistic for a start-up operation or the technology inventor. Such a valuation is not appropriate for negotiating a licence because both parties, licensor and licensee, need to realise a return on their respective investments.

A venture capitalist, for the sake of discussion, may apply a 45% to 55% discount rate to the cash flow forecasts when presented by a start-up compared to a pharmaceutical industry figure of 8% to 12% when the same cash flows are proffered by a pharmaceutical giant.

We have utilised a licensing model based on PharmAust's advice that it will seek to out-license following initial safety and efficacy trials in Australia and knowledge that this is the most probable route for an Australian biotech company.

It should be noted that, although models use an optimisation technique to ensure a fixed apportionment of benefit between parties by adjusting the royalty rate (a fully "back-ended" deal), modelling with licensing fees and milestones payments will generate the same valuation but with reduced royalties. The Company may structure a deal to achieve the same valuation in any manner that is agreeable to both parties.

In considering methods for valuing Epichem, the net assets is commonly only applicable in the event that a Company is no longer a going concern, or is marginally profitable with limited growth opportunities. We have no reason to suspect that Epichem is unlikely to continue as a successful business and to grow as it has in the past. As a successfully operating business, its worth may fairly be expected to exceed the value of its assets. Furthermore, the balance sheet does not include the significant intangible assets in chemicals, customer and supplier lists, standard operating procedures, accreditation and licences and assembled staff.

The Capitalisation and Estimation of Goodwill methods are based on average historical performance and do not assume that the Company will grow beyond its past level of operation but that it is maintainable at the very least (except to the extent that the Company's PER will approach that of its larger, ASX-listed industry peers). This, however, may be the stance of an arm's length acquirer who considers that there is risk to growth. The application of a capitalisation rate obtained from large listed companies is also inappropriate for a small private business. We have multiplied the weighted average earnings for the past five years by factors of 10 and 15 based on limited useful comparables.

An estimate of goodwill based on past performance is approximately $117,000 which may be added to NTA for a valuation of approximately $733,000 (this approach implies a multiple of approximately 15 to last year's estimated NPAT). The goodwill is as a chemistry service provider and, as such, one would expect an acquirer to be able to make use of tax losses carried by the company which are not included in the $733,000 figure.

With the view that the constant growth may be assured and that tax losses realized, a DCF analysis based on extrapolation of historical performance yields a valuation of $1.3 million. This is a reasonable valuation in the absence of evidence, such as advance orders, that greater growth will occur.

The Company has prepared a credible business plan for significant expansion and growth, and application of high discount rates due to the lack of surety behind estimates yields a valuation of more than $2.2 million at a 30% discount rate. There is no mathematical basis for selecting the discount rate other than that it may be a hurdle rate for an interested buyer with the wherewithal to drive growth, for example international reach. Such a valuation estimates may be the opening gamut in a sale negotiation but it does not represent market valuation as may be defined by the Australian Taxation Office.

We consider a valuation PharmAust in the range $64.6 million and $98.9 million to be reasonable considering the comparison with available market capitalisations, and mergers and acquisition data.

8. Disclaimer

The valuations make certain assumptions in relation to the revenue prospects. The projections used in the valuation derive from information which we have obtained from PharmAust and its advisors, subscription databases and publicly available sources. Neither Acuity nor its principals make any representation as to the accuracy of this information. While all care has been taken to choose reliable sources or to verify information through alternative sources, Acuity cannot guarantee validity.

In applying these figures to the determination of the value of the IP, we are making no representation that further technology development and deployment will be successful, or that revenues will be achieved. The valuation utilises financial projections which are based on hypothetical assumptions for which there is no certainty that future events or management actions will occur. Assumptions relating to the forecasts and projections involve judgments with respect to, among other things, future economic and competitive market conditions and future government and business decisions, all of which are difficult or impossible to predict accurately. Actual results and future events could differ materially from such projections.

The cash flow model used in the valuation makes the assumption that PharmAust has, or will have, sufficient funds to support further development and maintenance of the IP, and to meet trial and regulatory approval costs as and when they occur. Acuity has not analysed the Company's accounts in detail and cannot confirm that adequate funding and resources are available. Without adequate funds the value of the IP may not be realised. Additionally, delays in deployment and/or in securing investment or collaborations could impact severely on the valuation.

This valuation has been prepared solely for PharmAust to assist with internal managing and accounting matters. Neither Acuity nor any employee undertakes responsibility in any way whatsoever to any person or organisation (other than PharmAust) in respect of information set out in this report, including any errors or omissions here-in, arising through negligence or otherwise, however caused.

Yours sincerely

David H Randerson, BE, PhD, FAICD
Managing Director

Encl.

Attachment I	Monepantel for ovarian cancer
Attachment II	Monepantel for breast cancer
Attachment III	Monepantel for breast cancer
Attachment IV	Albendazole for malignant ascites
Attachment V	Anti-mucin combination drug for mucinous adenocarcinoma
Attachment VI	Monepantel for canine cancers
Attachment VII	Epichem
Attachment VIII	Pharmaceutical & Veterinary Company Metrics
Attachment IX	Acuity technology Management. Experience and Qualifications

ATTACHMENTS I to VIII

Valuation Spreadsheets –

PPL-1 as Combination Therapy for Ovarian Cancer

Cash Flow & Valuation **Currency** US$

VALUATION DATE 1/09/2015 **Product about to enter a Phase II study under CTN**

MARKET DATA	New Patients Nth America	New Patients Europe	New Patients RoW	Prevalent Patients Nth America	Prevalent Patients Europe	Prevalent Patients RoW			
Number of Cases Forecast for Year 1	23,409	44,483	31,565	58,702	104,813	81,903			
Annual Growth in Incidence/Prevalence	2.0%	2.0%	2.0%	0.9%	1.0%	1.0%			
Peak Market Penetration	7.9%	7.9%	7.9%	12.0%	12.0%	12.0%	90% epithelial	35% on chemo	25% penetration
Treatment Cost	$10,000	$8,000	$8,000	$10,000	$8,000	$8,000			
Market Ramp Time to Peak Penetration (Years)	3	3	3	3	3	3			
Time at Peak	5	5	5	1	1	1			
Rate of Decline from Peak	5%	5%	5%	20%	20%	20%	Decline prevalence due to cure or death		
Delay after US Launch (Years)		0	0	0	0	0			
Patent Expiry	5/08/2033						WO2014/022879		
Years of Revenue (post launch)	12	12	12	12	12	12			

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	-		
Phase 1 CTN	1.0	Pitney	
Phase 2 or 1b/2a IND	1.0	Partner	
Phase 3	3.0		
FDA	1.0		
	6		

TRIALS - End of Trial Periods	
-	Preclinical Ends
1	Phase 1 Ends
2	Phase 2 Ends
5	Phase 3 Ends
6	FDA Ends
9	Year Peak Reached
14	Year Decline Commences
12	Years of Revenue
19	Revenue Ends

Split OvCa	32.6%
Split Breast	32.3%
Split Pancreas	66.9%
Overall	33.4%

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	20
Phase 2 or 2b	100
Phase 3	300

COSTS

Annual Pre-Market Patent Fees	$ 5,000	
Annual Preclinical Costs	$ -	
Animal studies	$ -	
Per Patient Phase 1	$ 37,500	In AU
Per Patient Phase 2	$ 60,000	Under CRO
Per Patient Phase 3	$ 75,000	
Regulatory Approval Costs	$ 2,500,000	
Post Market Surveillence	$ 2,000,000	
CAPEX	$ -	
Licensor SG&A	0.5%	
Annual Efficiency Gain on COGS	0.0%	
Licensee COGS	31.8%	Company analysis
Licensee SG&A	32.5%	Incl. 15% of R&D spend

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

			Cumulative Probability
Preclinical	100.0%		100.0%
Phase 1/2a	100.0%		100.0%
Phase 2	28.3%	Hay, et al	28.3%
Phase 3	45.2%		12.8%
FDA	81.7%		10.5%

OUT-LICENSE TERMS

Milestone Payments		
USA	Initiation Phase 1b/2a	$0
	Initiation Phase 3	$0
	Filing NDA/BLA USA	$0
	Marketing Approval USA	$0
EU	European IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA EMEA	$0
	Marketing Approval EU	$0
Asia	Japanese IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA	$0
	Marketing Approval	$0

Royalty Rates	Revenues to:		
		$250,000,000	9.4%
		$500,000,000	10.4%
		$1,000,000,000	11.4%
	Above	$1,000,000,000	12.4%

REGIONS INCLUDED

New Diagnoses	USA	TRUE
	Europe	TRUE
	RoW	TRUE
Existing Patients	USA	TRUE
	Europe	TRUE
	RoW	TRUE

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones	Comm Phase 1	
	Completion Phase 1	
	Comm Phase 3	
	First Commercial Sale	
	FDA Approval	
Annual Fees	Up until Start Phase 2	
	After Comm Phase 2 to FDA Appro	
Royalty Rate	Net Sales	
Min Royalty	3 yr after launch	
	4	
	5	
	6	
	7 ongoing	
Sublicensing Fee:	Before Comm Phase 1	
	During Phase 1	
	During Phase 2 or 2b	

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Based on Incidence Rate																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		23,409	23,877	24,355	24,842	25,339	25,845	26,362	26,890	27,427	27,976	28,535	29,106	29,688	30,282	30,888	31,505	32,136	32,778	33,434	34,102	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	5.3%	7.9%	7.9%	7.9%	7.9%	7.9%	7.5%	7.1%	6.8%	6.4%	6.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	692	1,412	2,160	2,203	2,247	2,292	2,338	2,265	2,195	2,127	2,061	1,997	-	-	
Revenues USA	$ 10,000	**-**	**-**	**-**	**-**	**-**	**-**	**6,920,113**	**14,117,031**	**21,599,057**	**22,031,039**	**22,471,659**	**22,921,092**	**23,379,514**	**22,654,749**	**21,952,452**	**21,271,926**	**20,612,496**	**19,973,509**	**-**	**-**	**239,904,639**
PRODUCT SALES EUROPE																						
Number of Cases		44,483	45,373	46,280	47,206	48,150	49,113	50,095	51,097	52,119	53,161	54,225	55,309	56,415	57,544	58,694	59,868	61,066	62,287	63,533	64,803	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	5.3%	7.9%	7.9%	7.9%	7.9%	7.9%	7.5%	7.1%	6.8%	6.4%	6.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	1,315	2,683	4,104	4,186	4,270	4,356	4,443	4,305	4,172	4,042	3,917	3,795	-	-	
Revenues Europe	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**10,519,967**	**21,460,734**	**32,834,922**	**33,491,621**	**34,161,453**	**34,844,682**	**35,541,576**	**34,439,787**	**33,372,154**	**32,337,617**	**31,335,151**	**30,363,761**	**-**	**-**	**364,703,424**
PRODUCT SALES REST OF WORLD																						
Number of Cases		31,565	32,196	32,840	33,497	34,167	34,850	35,547	36,258	36,983	37,723	38,478	39,247	40,032	40,833	41,649	42,482	43,332	44,199	45,083	45,984	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	5.3%	7.9%	7.9%	7.9%	7.9%	7.9%	7.5%	7.1%	6.8%	6.4%	6.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	933	1,904	2,912	2,971	3,030	3,091	3,153	3,055	2,960	2,868	2,779	2,693	-	-	
Revenues RoW	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**7,464,937**	**15,228,471**	**23,299,560**	**23,765,551**	**24,240,862**	**24,725,679**	**25,220,193**	**24,438,367**	**23,680,778**	**22,946,673**	**22,235,327**	**21,546,031**	**-**	**-**	**258,792,428**
Based on Prevalence Data																						
PRODUCT SALES USA																						
Number of Cases		58,702	59,230	59,763	60,301	60,844	61,392	61,944	62,502	63,064	63,632	64,204	64,782	65,365	65,954	66,547	67,146	67,750	68,360	68,975	69,596	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	8.0%	12.0%	9.6%	7.7%	6.1%	4.9%	3.9%	3.1%	2.5%	2.0%	1.6%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	2,478	5,000	7,568	6,109	4,931	3,980	3,213	2,593	2,093	1,690	1,364	1,101	-	-	
Revenues USA	$ 10,000	**-**	**-**	**-**	**-**	**-**	**-**	**24,777,637**	**50,001,272**	**75,676,924**	**61,086,413**	**49,308,953**	**39,802,187**	**32,128,325**	**25,933,984**	**20,933,912**	**16,897,854**	**13,639,948**	**11,010,166**	**-**	**-**	**421,197,574**
PRODUCT SALES EUROPE																						
Number of Cases		104,813	105,861	106,920	107,989	109,069	110,160	111,261	112,374	113,497	114,632	115,779	116,937	118,106	119,287	120,480	121,685	122,901	124,131	125,372	126,626	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	8.0%	12.0%	9.6%	7.7%	6.1%	4.9%	3.9%	3.1%	2.5%	2.0%	1.6%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	4,450	8,990	13,620	11,005	8,892	7,185	5,805	4,691	3,790	3,062	2,474	1,999	-	-	
Revenues Europe	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**35,603,556**	**71,919,183**	**108,957,561**	**88,037,710**	**71,134,469**	**57,476,651**	**46,441,134**	**37,524,436**	**30,319,745**	**24,498,354**	**19,794,670**	**15,994,093**	**-**	**-**	**607,701,562**
PRODUCT SALES REST OF WORLD																						
Number of Cases		81,903	82,722	83,549	84,385	85,229	86,081	86,942	87,811	88,689	89,576	90,472	91,377	92,290	93,213	94,145	95,087	96,038	96,998	97,968	98,948	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	8.0%	12.0%	9.6%	7.7%	6.1%	4.9%	3.9%	3.1%	2.5%	2.0%	1.6%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	3,478	7,025	10,643	8,599	6,948	5,614	4,536	3,665	2,962	2,393	1,933	1,562	-	-	
Revenues RoW	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**27,821,339**	**56,199,105**	**85,141,644**	**68,794,449**	**55,585,914**	**44,913,419**	**36,290,042**	**29,322,354**	**23,692,462**	**19,143,510**	**15,467,956**	**12,498,108**	**-**	**-**	**474,870,303**
Total Revenues		**-**	**-**	**-**	**-**	**-**	**-**	**113,107,549**	**228,925,794**	**347,509,670**	**297,206,782**	**256,903,311**	**224,683,711**	**199,000,785**	**174,313,678**	**153,951,502**	**137,095,933**	**123,085,547**	**111,385,669**	**-**	**-**	**2,367,169,931**

NPV of Revenue **497,808,682**

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	-	-	113,107,549	228,925,794	347,509,670	297,206,782	256,903,311	224,683,711	199,000,785	174,313,678	153,951,502	137,095,933	123,085,547	111,385,669	-	-	2,367,169,931
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 1,200,000	-	1,200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200,000
Phase 3	$ 7,500,000	-	-	7,500,000	7,500,000	7,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,500,000
Post Market Surveillance	$ 2,000,000	-	-	-	-	-	-	2,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000,000
FDA Fees	$ 2,500,000	-	-	-	-	-	2,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,500,000
COGS	31.8%	-	-	-	-	-	-	35,968,201	72,798,403	110,508,075	94,511,757	81,695,253	71,449,420	63,282,250	55,431,750	48,956,578	43,596,507	39,141,204	35,420,643	-	-	752,760,038
SG&A	32.5%	-	-	-	-	-	-	36,759,953	74,400,883	112,940,643	96,592,204	83,493,576	73,022,206	64,675,255	56,651,945	50,034,238	44,556,178	40,002,803	36,200,342	-	-	769,330,228
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	-	-	10,676,764	21,609,404	33,778,202	28,526,842	24,319,369	21,208,974	18,784,639	16,454,305	14,532,221	12,941,143	11,618,635	10,514,228	-	-	224,964,726
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		-	1,200,000	7,500,000	7,500,000	7,500,000	2,500,000	85,404,918	168,808,690	257,226,920	219,630,803	189,508,199	165,680,600	146,742,144	128,538,000	113,523,037	101,093,828	90,762,642	82,135,213	-	-	1,775,254,992
Net Contribution Margin		-	(1,200,000)	(7,500,000)	(7,500,000)	(7,500,000)	(2,500,000)	27,702,631	60,117,104	90,282,750	77,575,979	67,395,113	59,003,111	52,258,641	45,775,679	40,428,465	36,002,105	32,322,905	29,250,456	-	-	591,914,939
Cumulative		-	(1,200,000)	(8,700,000)	(16,200,000)	(23,700,000)	(26,200,000)	1,502,631	61,619,735	151,902,485	229,478,464	296,873,577	355,876,688	408,135,329	453,911,008	494,339,473	530,341,578	562,664,483	591,914,939	591,914,939	591,914,939	

NPV Expenses	383,178,654
VALUATION (unadjusted)	**114,630,028**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	28%	28%	13%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	11,820,573	23,924,433	36,317,322	31,060,300	26,848,290	23,481,104	20,797,049	18,217,064	16,089,067	14,327,536	12,863,347	11,640,623	-	-	247,386,709
Risk Adjusted Expenses	-	1,200,000	2,122,500	2,122,500	2,122,500	319,790	8,925,444	17,641,753	26,882,109	22,953,038	19,805,004	17,314,844	15,335,636	13,433,169	11,863,994	10,565,050	9,485,365	8,583,735	-	-	190,676,431
Risk Adjusted Cash Flow	-	(1,200,000)	(2,122,500)	(2,122,500)	(2,122,500)	(319,790)	2,895,129	6,282,681	9,435,213	8,107,262	7,043,286	6,166,260	5,461,413	4,783,896	4,225,073	3,762,485	3,377,982	3,056,888	-	-	56,710,278

VALUATION (probability adjusted)	**8,830,653**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Royalty Income		-	-	-	-	-	-	10,676,764	21,609,404	33,778,202	28,526,842	24,319,369	21,208,974	18,784,639	16,454,305	14,532,221	12,941,143	11,618,635	10,514,228	-	-	224,964,726
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Materials Supply																						
TOTAL LICENSOR REVENUE		-	-	-	-	-	-	10,676,764	21,609,404	33,778,202	28,526,842	24,319,369	21,208,974	18,784,639	16,454,305	14,532,221	12,941,143	11,618,635	10,514,228	-	-	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ 750,000	750,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	750,000
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	-	-	53,384	108,047	168,891	142,634	121,597	106,045	93,923	82,272	72,661	64,706	58,093	52,571	-	-	1,124,824
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		755,000	5,000	5,000	5,000	5,000	5,000	53,384	108,047	168,891	142,634	121,597	106,045	93,923	82,272	72,661	64,706	58,093	52,571	-	-	1,904,824
Net Contribution Margin		(755,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	10,623,380	21,501,357	33,609,311	28,384,208	24,197,773	21,102,929	18,690,716	16,372,033	14,459,560	12,876,437	11,560,542	10,461,657	-	-	223,059,903
Cumulative		(755,000)	(760,000)	(765,000)	(770,000)	(775,000)	(780,000)	9,843,380	31,344,738	64,954,049	93,338,257	117,536,029	138,638,958	157,329,674	173,701,707	188,161,267	201,037,704	212,598,246	223,059,903	223,059,903	223,059,903	

NPV Expenses	908,093
VALUATION (unadjusted)	**46,491,167**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	28%	28%	13%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	1,115,801	2,258,342	3,530,071	2,981,265	2,541,553	2,216,494	1,963,133	1,719,596	1,518,724	1,352,445	1,214,233	1,098,814	-	-	23,510,472
Risk Adjusted Expenses	755,000	5,000	1,415	1,415	1,415	640	5,579	11,292	17,650	14,906	12,708	11,082	9,816	8,598	7,594	6,762	6,071	5,494	-	-	882,437
Risk Adjusted Cash Flow	**(755,000)**	**(5,000)**	**(1,415)**	**(1,415)**	**(1,415)**	**(640)**	**1,110,222**	**2,247,050**	**3,512,421**	**2,966,359**	**2,528,846**	**2,205,412**	**1,953,318**	**1,710,998**	**1,511,131**	**1,345,683**	**1,208,162**	**1,093,320**	**-**	**-**	**22,628,035**

VALUATION (probability adjusted)	**4,265,782**

TOTAL RISK ADJUSTED VALUATION	**13,096,435**	Split based on three Indications	53,820,538	
LICENSOR FRACTION	**32.6%**		27,031,628	33.4%
			56,480,263	

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
			ie. discount rate to achieve same valuation without probability adjustments.
	Eff. Disc. Rate	43.1%	

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-755,000	-5,000	-1,415	-1,415	-1,415	-640	1,110,222	2,247,050	3,512,421	2,966,359	2,528,846	2,205,412	1,953,318	1,710,998	1,511,131	1,345,683	1,208,162	1,093,320	0	0	22,628,035
Cumulative Cash Flow		-755,000	-760,000	-761,415	-762,830	-764,245	-764,885	345,337	2,592,387	6,104,808	9,071,167	11,600,013	13,805,424	15,758,742	17,469,740	18,980,871	20,326,553	21,534,715	22,628,035	22,628,035	22,628,035	
Tax Payable		0	0	0	0	0	0	103,601	674,115	1,053,726	889,908	758,654	661,623	585,995	513,299	453,339	403,705	362,449	327,996	0	0	6,788,411
After Tax Cash Flow		**-755,000**	**-5,000**	**-1,415**	**-1,415**	**-1,415**	**-640**	**1,006,620**	**1,572,935**	**2,458,695**	**2,076,451**	**1,770,192**	**1,543,788**	**1,367,322**	**1,197,699**	**1,057,791**	**941,978**	**845,713**	**765,324**	**0**	**0**	**15,839,625**

AFTER TAX VALUATION	**2,873,406**	**AUD**	**3,882,981**	**Sum of Three Cancers**	**25,413,360**	
				USD	**18,805,886**	

PPL-1 in Breast Cancer

Cash Flow & Valuation **Currency** US$

VALUATION DATE 1/09/2015

MARKET DATA	New Patients Nth America	New Patients Europe	New Patients RoW	Existing Pool Nth America	Existing Pool Europe	Existing Pool RoW
Number of Cases Forecast for Year 1	256,219	361,606	170,367	1,068,784	1,443,913	687,901
Annual Growth in Incidence	2.0%	2.0%	2.0%	0.5%	1.0%	1.0%
Peak Market Penetration	6.3%	6.3%	6.3%	3.0%	3.0%	3.0%
Treatment Cost	$10,000	$8,000	$8,000	$10,000	$8,000	$8,000
Market Ramp Time to Peak Penetration (Years)	3	3	3	3	3	3
Time at Peak	5	5	5	1	1	1
Rate of Decline from Peak	5%	5%	5%	10%	10%	10%
Delay after US Launch (Years)		0	0	0	0	0
Patent Expiry	5/08/2033					
Years of Revenue (post launch)	11	11	11	11	11	11

25% on chemo 25% penetration

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	-	
Phase 1	2.0	Delay due OvCa
Phase 2 or 1b/2a IND	1.0	
Phase 3	3.0	
FDA	1.0	
	7	

TRIALS - End of Trial Periods	
-	Preclinical Ends
2	Phase 1 Ends
3	Phase 2 Ends
6	Phase 3 Ends
7	FDA Ends
10	Year Peak Reached
15	Year Decline Commences
11	Years of Revenue
19	Revenue Ends

Split 32.3%

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	-
Phase 2 or 2b	100
Phase 3	300

COSTS

Annual Pre-Market Patent Fees	$ 5,000
Annual Preclinical Costs	$ -
Animal studies	$ -
Per Patient Phase 1 or 1a/2b	$ -
Per Patient Phase 2 or 2b	$ 60,000
Per Patient Phase 3	$ 75,000
Regulatory Approval Costs	$ 1,500,000
Post Market Surveillence	$ 1,000,000
CAPEX	$ -
Licensor SG&A	0.5%
Annual Efficiency Gain on COGS	0.0%
Licensee COGS	31.8%
Licensee SG&A	32.5%

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

			Cumulative Probability
Preclinical	100.0%		100.0%
First Human Trial	28.3%	OvCa PII	28.3%
Phase 2	90.0%		25.5%
Phase 3	45.2%		11.5%
FDA	81.7%		9.4%

OUT-LICENSE TERMS

Milestone Payments		
USA	Initiation Phase 1b/2a	
	Initiation Phase 3	
	Filing NDA/BLA USA	
	Marketing Approval USA	
EU	European IND Approval	
	Initiation Human Trials	
	Acceptance MAA EMEA	
	Marketing Approval EU	
Asia	Japanese IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA	$0
	Marketing Approval	$0

Royalty Rates	Revenues to:	
	$250,000,000	9.4%
	$500,000,000	10.4%
	$1,000,000,000	11.4%
Above	$1,000,000,000	12.4%

REGIONS INCLUDED

New Diagnoses	USA	TRUE
	Europe	TRUE
	RoW	TRUE
Existing Patients	USA	TRUE
	Europe	TRUE
	RoW	TRUE

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones	Comm Phase 1	
	Completion Phase 1	
	Comm Phase 3	
	First Commercial Sale	
	FDA Approval	
Annual Fees	Up until Start Phase 2	
	After Comm Phase 2 to FDA Appro	
Royalty Rate	Net Sales	
Min Royalty	3 yr after launch	
	4	
	5	
	6	
	7 ongoing	
Sublicensing Fee:	Before Comm Phase 1	
	During Phase 1	
	During Phase 2 or 2b	

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Based on Incidence Rate																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		256,219	261,343	266,570	271,902	277,340	282,886	288,544	294,315	300,201	306,205	312,330	318,576	324,948	331,447	338,076	344,837	351,734	358,768	365,944	373,263	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	6,132	12,508	19,138	19,521	19,911	20,309	20,715	20,073	19,451	18,848	18,264	-	-	
Revenues USA	$ 10,000	-	-	-	-	-	-	-	**61,315,644**	**125,083,915**	**191,378,389**	**195,205,957**	**199,110,076**	**203,092,278**	**207,154,123**	**200,732,345**	**194,509,643**	**188,479,844**	**182,636,969**	-	-	**1,948,699,183**
PRODUCT SALES EUROPE																						
Number of Cases		361,606	368,838	376,215	383,739	391,414	399,242	407,227	415,372	423,679	432,153	440,796	449,612	458,604	467,776	477,131	486,674	496,408	506,336	516,462	526,792	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	8,654	17,653	27,010	27,550	28,101	28,663	29,236	28,330	27,451	26,600	25,776	-	-	
Revenues Europe	$ 8,000	-	-	-	-	-	-	-	**69,228,605**	**141,226,354**	**216,076,322**	**220,397,848**	**224,805,805**	**229,301,921**	**233,887,960**	**226,637,433**	**219,611,672**	**212,803,711**	**206,206,796**	-	-	**2,200,184,426**
PRODUCT SALES REST OF WORLD																						
Number of Cases		170,367	173,774	177,250	180,795	184,411	188,099	191,861	195,698	199,612	203,604	207,676	211,830	216,067	220,388	224,796	229,292	233,877	238,555	243,326	248,193	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	4,077	8,317	12,725	12,980	13,239	13,504	13,774	13,347	12,933	12,533	12,144	-	-	
Revenues RoW	$ 8,000	-	-	-	-	-	-	-	**32,616,355**	**66,537,365**	**101,802,168**	**103,838,211**	**105,914,975**	**108,033,275**	**110,193,940**	**106,777,928**	**103,467,812**	**100,260,310**	**97,152,241**	-	-	**1,036,594,581**
Based on Prevalence Data																						
PRODUCT SALES USA																						
Number of Cases		1,068,784	1,078,403	1,088,109	1,097,902	1,107,783	1,117,753	1,127,813	1,137,963	1,148,205	1,158,538	1,168,965	1,179,486	1,190,101	1,200,812	1,211,620	1,222,524	1,233,527	1,244,629	1,255,830	1,267,133	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	2.0%	3.0%	2.7%	2.4%	2.2%	2.0%	1.8%	1.6%	1.4%	1.3%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	11,380	22,964	34,756	31,562	28,662	26,028	23,636	21,463	19,491	17,700	16,073	-	-	
Revenues USA	$ 10,000	-	-	-	-	-	-	-	**113,796,291**	**229,640,915**	**347,561,525**	**315,620,621**	**286,615,086**	**260,275,160**	**236,355,872**	**214,634,768**	**194,909,833**	**176,997,619**	**160,731,538**	-	-	**2,537,139,228**
PRODUCT SALES EUROPE																						
Number of Cases		1,443,913	1,458,352	1,472,936	1,487,665	1,502,542	1,517,567	1,532,743	1,548,070	1,563,551	1,579,186	1,594,978	1,610,928	1,627,037	1,643,308	1,659,741	1,676,338	1,693,102	1,710,033	1,727,133	1,744,404	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	2.0%	3.0%	2.7%	2.4%	2.2%	2.0%	1.8%	1.6%	1.4%	1.3%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	15,481	31,271	47,376	43,064	39,146	35,583	32,345	29,402	26,726	24,294	22,083	-	-	
Revenues Europe	$ 8,000	-	-	-	-	-	-	-	**123,845,614**	**250,168,140**	**379,004,732**	**344,515,301**	**313,164,409**	**284,666,448**	**258,761,801**	**235,214,477**	**213,809,960**	**194,353,253**	**176,667,107**	-	-	**2,774,171,242**
PRODUCT SALES REST OF WORLD																						
Number of Cases		687,901	694,780	701,728	708,745	715,833	722,991	730,221	737,523	744,898	752,347	759,871	767,469	775,144	782,896	790,724	798,632	806,618	814,684	822,831	831,059	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	2.0%	3.0%	2.7%	2.4%	2.2%	2.0%	1.8%	1.6%	1.4%	1.3%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	7,375	14,898	22,570	20,517	18,650	16,952	15,410	14,007	12,733	11,574	10,521	-	-	
Revenues RoW	$ 8,000	-	-	-	-	-	-	-	**59,001,838**	**119,183,714**	**180,563,326**	**164,132,064**	**149,196,046**	**135,619,206**	**123,277,858**	**112,059,573**	**101,862,152**	**92,592,696**	**84,166,761**	-	-	**1,321,655,232**
Total Revenues		-	-	-	-	-	-	-	**459,804,348**	**931,840,402**	**1,416,386,462**	**1,343,710,002**	**1,278,806,397**	**1,220,988,287**	**1,169,631,555**	**1,096,056,524**	**1,028,171,072**	**965,487,433**	**907,561,411**	-	-	**11,818,443,893**

NPV of Revenue 2,064,522,686

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	-	-	-	**459,804,348**	**931,840,402**	**1,416,386,462**	**1,343,710,002**	**1,278,806,397**	**1,220,988,287**	**1,169,631,555**	**1,096,056,524**	**1,028,171,072**	**965,487,433**	**907,561,411**	-	-	**11,818,443,893**
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 6,000,000	-	-	6,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,000,000
Phase 3	$ 7,500,000	-	-	-	7,500,000	7,500,000	7,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,500,000
Post Market Surveillance	$ 1,000,000	-	-	-	-	-	-	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	1,000,000
FDA Fees	$ 1,500,000	-	-	-	-	-	-	1,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,500,000
COGS	31.8%	-	-	-	-	-	-	-	146,217,783	296,325,248	450,410,895	427,299,781	406,660,434	388,274,275	371,942,834	348,545,975	326,958,401	307,025,004	288,604,529	-	-	3,758,265,158
SG&A	32.5%	-	-	-	-	-	-	-	149,436,413	302,848,131	460,325,600	436,705,751	415,612,079	396,821,193	380,130,255	356,218,370	334,155,598	313,783,416	294,957,458	-	-	3,840,994,265
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	-	-	-	45,501,182	99,097,695	158,691,109	149,650,535	141,576,864	134,384,592	127,996,082	118,843,730	110,399,133	102,946,740	96,320,305	-	-	1,285,407,967
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		-	-	**6,000,000**	**7,500,000**	**7,500,000**	**7,500,000**	**1,500,000**	**342,155,378**	**698,271,074**	**1,069,427,604**	**1,013,656,067**	**963,849,378**	**919,480,060**	**880,069,171**	**823,608,076**	**771,513,132**	**723,755,160**	**679,882,292**	-	-	**8,915,667,390**
Net Contribution Margin		-	-	**(6,000,000)**	**(7,500,000)**	**(7,500,000)**	**(7,500,000)**	**(1,500,000)**	**117,648,970**	**233,569,329**	**346,958,858**	**330,053,936**	**314,957,020**	**301,508,226**	**289,562,383**	**272,448,449**	**256,657,939**	**241,732,273**	**227,679,119**	-	-	**2,902,776,503**
Cumulative		-	-	(6,000,000)	(13,500,000)	(21,000,000)	(28,500,000)	(30,000,000)	87,648,970	321,218,298	668,177,157	998,231,093	1,313,188,113	1,614,696,339	1,904,258,723	2,176,707,171	2,433,365,111	2,675,097,384	2,902,776,503	2,902,776,503	2,902,776,503	

NPV Expenses	1,568,165,078
VALUATION (unadjusted)	**496,357,609**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	25%	25%	25%	12%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	-	43,247,650	87,645,772	133,220,544	126,384,841	120,280,226	114,842,049	110,011,608	103,091,388	96,706,311	90,810,499	85,362,172	-	-	1,111,603,061
Risk Adjusted Expenses	-	-	1,698,000	1,910,250	1,910,250	1,910,250	172,687	32,181,983	65,677,027	100,586,762	95,341,078	90,656,429	86,483,200	82,776,345	77,465,804	72,565,929	68,073,975	63,947,440	-	-	843,357,409
Risk Adjusted Cash Flow	-	-	**(1,698,000)**	**(1,910,250)**	**(1,910,250)**	**(1,910,250)**	**(172,687)**	**11,065,666**	**21,968,745**	**32,633,783**	**31,043,763**	**29,623,797**	**28,358,849**	**27,235,263**	**25,625,584**	**24,140,382**	**22,736,524**	**21,414,732**	-	-	**268,245,652**

VALUATION (probability adjusted)	**44,119,693**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Royalty Income		-	-	-	-	-	-	-	45,501,182	99,097,695	158,691,109	149,650,535	141,576,864	134,384,592	127,996,082	118,843,730	110,399,133	102,946,740	96,320,305	-	-	1,285,407,967
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Materials Supply																						
TOTAL LICENSOR REVENUE		-	-	-	-	-	-	-	**45,501,182**	**99,097,695**	**158,691,109**	**149,650,535**	**141,576,864**	**134,384,592**	**127,996,082**	**118,843,730**	**110,399,133**	**102,946,740**	**96,320,305**	-	-	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	35,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	-	-	-	227,506	495,488	793,456	748,253	707,884	671,923	639,980	594,219	551,996	514,734	481,602	-	-	6,427,040
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		5,000	5,000	5,000	5,000	5,000	5,000	5,000	227,506	495,488	793,456	748,253	707,884	671,923	639,980	594,219	551,996	514,734	481,602	-	-	6,462,040
Net Contribution Margin		(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	45,273,676	98,602,207	157,897,653	148,902,282	140,868,980	133,712,669	127,356,101	118,249,512	109,847,138	102,432,007	95,838,703	-	-	1,278,945,927
Cumulative		(5,000)	(10,000)	(15,000)	(20,000)	(25,000)	(30,000)	(35,000)	45,238,676	143,840,883	301,738,536	450,640,818	591,509,798	725,222,467	852,578,568	970,828,080	1,080,675,218	1,183,107,224	1,278,945,927	1,278,945,927	1,278,945,927	

NPV Expenses	1,143,710
VALUATION (unadjusted)	**223,437,944**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	25%	25%	25%	12%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	-	4,279,688	9,320,796	14,925,952	14,075,626	13,316,243	12,639,762	12,038,881	11,178,041	10,383,771	9,682,824	9,059,564	-	-	120,901,148
Risk Adjusted Expenses	5,000	5,000	1,415	1,274	1,274	1,274	576	21,398	46,604	74,630	70,378	66,581	63,199	60,194	55,890	51,919	48,414	45,298	-	-	620,317
Risk Adjusted Cash Flow	**(5,000)**	**(5,000)**	**(1,415)**	**(1,274)**	**(1,274)**	**(1,274)**	**(576)**	**4,258,290**	**9,274,192**	**14,851,322**	**14,005,248**	**13,249,662**	**12,576,564**	**11,978,686**	**11,122,151**	**10,331,852**	**9,634,410**	**9,014,266**	**-**	**-**	**120,280,831**

VALUATION (probability adjusted) **21,006,590**

TOTAL RISK ADJUSTED VALUATION **65,126,284**
LICENSOR FRACTION **32.3%**

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
	Eff. Disc. Rate	41.4%	ie. discount rate to achieve same valuation without probability adjustments.

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-5,000	-5,000	-1,415	-1,274	-1,274	-1,274	-576	4,258,290	9,274,192	14,851,322	14,005,248	13,249,662	12,576,564	11,978,686	11,122,151	10,331,852	9,634,410	9,014,266	0	0	120,280,831
Cumulative Cash Flow		-5,000	-10,000	-11,415	-12,689	-13,962	-15,236	-15,811	4,242,479	13,516,670	28,367,992	42,373,240	55,622,902	68,199,466	80,178,152	91,300,303	101,632,155	111,266,565	120,280,831	120,280,831	120,280,831	
Tax Payable		0	0	0	0	0	0	0	1,272,744	2,782,258	4,455,397	4,201,574	3,974,899	3,772,969	3,593,606	3,336,645	3,099,556	2,890,323	2,704,280	0	0	36,084,249
After Tax Cash Flow		**-5,000**	**-5,000**	**-1,415**	**-1,274**	**-1,274**	**-1,274**	**-576**	**2,985,546**	**6,491,934**	**10,395,925**	**9,803,673**	**9,274,764**	**8,803,595**	**8,385,080**	**7,785,506**	**7,232,296**	**6,744,087**	**6,309,986**	**0**	**0**	**84,196,582**

AFTER TAX VALUATION **14,702,808** **AUD** **19,868,659**

PPL-1 in Pancreatic Cancer **Cash Flow & Valuation** **Currency** US$

VALUATION DATE 1/09/2015

MARKET DATA	New Patients Nth America	New Patients Europe	New Patients RoW	Existing Pool Nth America	Existing Pool Europe	Existing Pool RoW
Number of Cases Forecast for Year 1	47,364	79,322	60,752			
Annual Growth in Incidence	2.0%	2.0%	2.0%			
Peak Market Penetration	6.3%	6.3%	6.3%			
Treatment Cost	$10,000	$8,000	$8,000			
Market Ramp Time to Peak Penetration (Years)	3	3	3			
Time at Peak	5	5	5			
Rate of Decline from Peak	5%	5%	5%			
Delay after US Launch (Years)		0	0			
Patent Expiry	5/08/2033					
Years of Revenue (post launch)	11	11	11	11	11	11

25% on chemo 25% penetration

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	-	
Phase 1	2.0	Delay due OvCa
Phase 2 or 1b/2a IND	1.0	
Phase 3	3.0	
FDA	1.0	
	7	

TRIALS - End of Trial Periods	
-	Preclinical Ends
2	Phase 1 Ends
3	Phase 2 Ends
6	Phase 3 Ends
7	FDA Ends
10	Year Peak Reached
15	Year Decline Commences
11	Years of Revenue
19	Revenue Ends

Split 66.9%

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	-
Phase 2 or 2b	100
Phase 3	300

COSTS

Annual Pre-Market Patent Fees	$ 5,000
Annual Preclinical Costs	$ -
Animal studies	$ -
Per Patient Phase 1 or 1a/2b	$ -
Per Patient Phase 2 or 2b	$ 60,000
Per Patient Phase 3	$ 75,000
Regulatory Approval Costs	$ 1,500,000
Post Market Surveillence	$ 1,000,000
CAPEX	$ -
Licensor SG&A	0.5%
Annual Efficiency Gain on COGS	0.0%
Licensee COGS	31.8%
Licensee SG&A	32.5%

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

			Cumulative Probability
Preclinical	100.0%		100.0%
First Human Trial	28.3%	OvCa PII	28.3%
Phase 2	90.0%		25.5%
Phase 3	45.2%		11.5%
FDA	81.7%		9.4%

OUT-LICENSE TERMS

Milestone Payments		
USA	Initiation Phase 1b/2a	
	Initiation Phase 3	
	Filing NDA/BLA USA	
	Marketing Approval USA	
EU	European IND Approval	
	Initiation Human Trials	
	Acceptance MAA EMEA	
	Marketing Approval EU	
Asia	Japanese IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA	$0
	Marketing Approval	$0

Royalty Rates	Revenues to:		
		$250,000,000	9.4%
		$500,000,000	10.4%
		$1,000,000,000	11.4%
	Above	$1,000,000,000	12.4%

REGIONS INCLUDED

New Diagnoses	USA	TRUE
	Europe	TRUE
	RoW	TRUE
Existing Patients	USA	
	Europe	
	RoW	

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones	Comm Phase 1	
	Completion Phase 1	
	Comm Phase 3	
	First Commercial Sale	
	FDA Approval	
Annual Fees	Up until Start Phase 2	
	After Comm Phase 2 to FDA Appro	
Royalty Rate	Net Sales	
Min Royalty	3 yr after launch	
	4	
	5	
	6	
	7 ongoing	
Sublicensing Fee:	Before Comm Phase 1	
	During Phase 1	
	During Phase 2 or 2b	

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Based on Incidence Rate																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		47,364	48,311	49,278	50,263	51,268	52,294	53,340	54,406	55,494	56,604	57,736	58,891	60,069	61,270	62,496	63,746	65,021	66,321	67,647	69,000	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	1,133	2,312	3,538	3,609	3,681	3,754	3,829	3,711	3,596	3,484	3,376	-	-	
Revenues USA	$ 10,000	-	-	-	-	-	-	-	**11,334,656**	**23,122,698**	**35,377,728**	**36,085,282**	**36,806,988**	**37,543,128**	**38,293,990**	**37,106,877**	**35,956,563**	**34,841,910**	**33,761,811**	-	-	**360,231,630**
PRODUCT SALES EUROPE																						
Number of Cases		79,322	80,908	82,527	84,177	85,861	87,578	89,329	91,116	92,938	94,797	96,693	98,627	100,599	102,611	104,664	106,757	108,892	111,070	113,291	115,557	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	1,898	3,872	5,925	6,043	6,164	6,287	6,413	6,214	6,022	5,835	5,654	-	-	
Revenues Europe	$ 8,000	-	-	-	-	-	-	-	**15,186,007**	**30,979,455**	**47,398,566**	**48,346,538**	**49,313,468**	**50,299,738**	**51,305,733**	**49,715,255**	**48,174,082**	**46,680,685**	**45,233,584**	-	-	**482,633,112**
PRODUCT SALES REST OF WORLD																						
Number of Cases		60,752	61,967	63,206	64,471	65,760	67,075	68,417	69,785	71,181	72,604	74,056	75,537	77,048	78,589	80,161	81,764	83,399	85,067	86,769	88,504	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	4.2%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	5.6%	5.4%	5.1%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	1,454	2,966	4,538	4,629	4,721	4,816	4,912	4,760	4,612	4,469	4,330	-	-	
Revenues RoW	$ 8,000	-	-	-	-	-	-	-	**11,630,825**	**23,726,884**	**36,302,132**	**37,028,175**	**37,768,738**	**38,524,113**	**39,294,595**	**38,076,463**	**36,896,092**	**35,752,313**	**34,643,992**	-	-	**369,644,321**
Based on Prevalence Data																						
PRODUCT SALES USA																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues USA	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
PRODUCT SALES EUROPE																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues Europe	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
PRODUCT SALES REST OF WORLD																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues RoW	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Total Revenues		-	-	-	-	-	-	-	**38,151,489**	**77,829,037**	**119,078,426**	**121,459,995**	**123,889,194**	**126,366,978**	**128,894,318**	**124,898,594**	**121,026,738**	**117,274,909**	**113,639,387**	-	-	**1,212,509,063**

NPV of Revenue **200,410,793**

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	-	-	-	**38,151,489**	**77,829,037**	**119,078,426**	**121,459,995**	**123,889,194**	**126,366,978**	**128,894,318**	**124,898,594**	**121,026,738**	**117,274,909**	**113,639,387**	-	-	**1,212,509,063**
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 6,000,000	-	-	6,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,000,000
Phase 3	$ 7,500,000	-	-	-	7,500,000	7,500,000	7,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,500,000
Post Market Surveillance	$ 1,000,000	-	-	-	-	-	-	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	1,000,000
FDA Fees	$ 1,500,000	-	-	-	-	-	-	1,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,500,000
COGS	31.8%	-	-	-	-	-	-	-	12,132,173	24,749,634	37,866,939	38,624,278	39,396,764	40,184,699	40,988,393	39,717,753	38,486,503	37,293,421	36,137,325	-	-	385,577,882
SG&A	32.5%	-	-	-	-	-	-	-	12,399,234	25,294,437	38,700,488	39,474,498	40,263,988	41,069,268	41,890,653	40,592,043	39,333,690	38,114,345	36,932,801	-	-	394,065,445
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	-	-	-	3,601,302	7,346,656	11,240,384	11,465,192	11,694,496	11,928,385	12,166,953	11,789,778	11,424,295	11,070,141	10,726,967	-	-	114,454,549
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		-	-	**6,000,000**	**7,500,000**	**7,500,000**	**7,500,000**	**1,500,000**	**29,132,709**	**57,390,727**	**87,807,812**	**89,563,968**	**91,355,248**	**93,182,352**	**95,046,000**	**92,099,574**	**89,244,487**	**86,477,908**	**83,797,093**	-	-	**925,097,876**
Net Contribution Margin		-	-	**(6,000,000)**	**(7,500,000)**	**(7,500,000)**	**(7,500,000)**	**(1,500,000)**	**9,018,779**	**20,438,310**	**31,270,614**	**31,896,026**	**32,533,947**	**33,184,626**	**33,848,318**	**32,799,020**	**31,782,251**	**30,797,001**	**29,842,294**	-	-	**287,411,187**
Cumulative		-	-	(6,000,000)	(13,500,000)	(21,000,000)	(28,500,000)	(30,000,000)	(20,981,221)	(542,911)	30,727,703	62,623,730	95,157,676	128,342,302	162,190,621	194,989,641	226,771,892	257,568,893	287,411,187	287,411,187	287,411,187	

NPV Expenses	163,877,213
VALUATION (unadjusted)	**36,533,580**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	25%	25%	25%	12%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	-	3,588,401	7,320,337	11,200,116	11,424,118	11,652,601	11,885,653	12,123,366	11,747,541	11,383,368	11,030,483	10,688,538	-	-	114,044,522
Risk Adjusted Expenses	-	-	1,698,000	1,910,250	1,910,250	1,910,250	172,687	2,740,125	5,397,979	8,258,907	8,424,085	8,592,567	8,764,418	8,939,707	8,662,576	8,394,036	8,133,821	7,881,673	-	-	91,791,331
Risk Adjusted Cash Flow	-	-	**(1,698,000)**	**(1,910,250)**	**(1,910,250)**	**(1,910,250)**	**(172,687)**	**848,276**	**1,922,359**	**2,941,209**	**3,000,033**	**3,060,034**	**3,121,234**	**3,183,659**	**3,084,965**	**2,989,332**	**2,896,662**	**2,806,866**	-	-	**22,253,191**

VALUATION (probability adjusted)	**870,192**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Royalty Income		-	-	-	-	-	-	-	3,601,302	7,346,656	11,240,384	11,465,192	11,694,496	11,928,385	12,166,953	11,789,778	11,424,295	11,070,141	10,726,967	-	-	114,454,549
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Materials Supply																						
TOTAL LICENSOR REVENUE		-	-	-	-	-	-	-	**3,601,302**	**7,346,656**	**11,240,384**	**11,465,192**	**11,694,496**	**11,928,385**	**12,166,953**	**11,789,778**	**11,424,295**	**11,070,141**	**10,726,967**	-	-	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	35,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	-	-	-	18,007	36,733	56,202	57,326	58,472	59,642	60,835	58,949	57,121	55,351	53,635	-	-	572,273
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		5,000	5,000	5,000	5,000	5,000	5,000	5,000	18,007	36,733	56,202	57,326	58,472	59,642	60,835	58,949	57,121	55,351	53,635	-	-	**607,273**
Net Contribution Margin		**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**3,583,296**	**7,309,923**	**11,184,182**	**11,407,866**	**11,636,023**	**11,868,744**	**12,106,118**	**11,730,829**	**11,367,173**	**11,014,791**	**10,673,332**	-	-	**113,847,276**
Cumulative		(5,000)	(10,000)	(15,000)	(20,000)	(25,000)	(30,000)	(35,000)	3,548,296	10,858,219	22,042,401	33,450,266	45,086,289	56,955,033	69,061,151	80,791,980	92,159,153	103,173,944	113,847,276	113,847,276	113,847,276	

NPV Expenses	115,391
VALUATION (unadjusted)	**18,802,346**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 1	Phase 2	Phase 3	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	28%	25%	25%	25%	12%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	-	-	338,726	691,002	1,057,233	1,078,377	1,099,945	1,121,944	1,144,383	1,108,907	1,074,531	1,041,220	1,008,942	-	-	10,765,210
Risk Adjusted Expenses	5,000	5,000	1,415	1,274	1,274	1,274	576	1,694	3,455	5,286	5,392	5,500	5,610	5,722	5,545	5,373	5,206	5,045	-	-	69,637
Risk Adjusted Cash Flow	**(5,000)**	**(5,000)**	**(1,415)**	**(1,274)**	**(1,274)**	**(1,274)**	**(576)**	**337,033**	**687,547**	**1,051,947**	**1,072,985**	**1,094,445**	**1,116,334**	**1,138,661**	**1,103,362**	**1,069,158**	**1,036,014**	**1,003,898**	**-**	**-**	**10,695,573**

VALUATION (probability adjusted) **1,759,255**

TOTAL RISK ADJUSTED VALUATION **2,629,447**
LICENSOR FRACTION **66.9%**

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
			ie. discount rate to achieve same valuation without probability adjustments.
	Eff. Disc. Rate	35.6%	

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-5,000	-5,000	-1,415	-1,274	-1,274	-1,274	-576	337,033	687,547	1,051,947	1,072,985	1,094,445	1,116,334	1,138,661	1,103,362	1,069,158	1,036,014	1,003,898	0	0	10,695,573
Cumulative Cash Flow		-5,000	-10,000	-11,415	-12,689	-13,962	-15,236	-15,811	321,222	1,008,768	2,060,715	3,133,700	4,228,146	5,344,480	6,483,140	7,586,503	8,655,661	9,691,675	10,695,573	10,695,573	10,695,573	
Tax Payable		0	0	0	0	0	0	0	96,366	206,264	315,584	321,896	328,334	334,900	341,598	331,009	320,747	310,804	301,169	0	0	3,208,672
After Tax Cash Flow		**-5,000**	**-5,000**	**-1,415**	**-1,274**	**-1,274**	**-1,274**	**-576**	**240,666**	**481,283**	**736,363**	**751,090**	**766,112**	**781,434**	**797,063**	**772,354**	**748,411**	**725,210**	**702,728**	**0**	**0**	**7,486,901**

AFTER TAX VALUATION **1,229,673** **AUD** **1,661,720**

Albendazole in Malignant Ascites **Cash Flow & Valuation** **Currency** **US$**

VALUATION DATE 1/09/2015

MARKET DATA

	Pancreatic Cancer			Gastric Cancer					
	Dev. World			Dev. World					
Number of Cases Forecast for Year 1	187,438	0	0	175,113	0	0	Pacreatic	21% incid.	25% uptake
Annual Growth in Incidence	2.0%			2.0%			Gastric	18.3% incid	25% uptake
Peak Market Penetration	5.3%			4.6%					
Treatment Cost	$10,000			$10,000					
Market Ramp Time to Peak Penetration (Years)	3			3					
Time at Peak	5			5					
Rate of Decline from Peak	5%			5%					
Delay after US Launch (Years)				2					
Patent Expiry	9/03/2029						WO2006/024092 3 year extension		
Years of Revenue (post launch)	9	9	9	7	9	9			

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	-		
Phase 1	-		
Phase 2 or 1b/2a IND	2.0	Partner	Split 33.3%
Phase 3	2.0		
FDA	1.0		
	5		

TRIALS - End of Trial Periods

-	Preclinical Ends
-	Phase 1 Ends
2	Phase 2 Ends
4	Phase 3 Ends
5	FDA Ends
8	Year Peak Reached
13	Year Decline Commences
9	Years of Revenue
15	Revenue Ends

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	-
Phase 2 or 2b	50
Phase 3	200

COSTS

Annual Pre-Market Patent Fees	$ 5,000	
Annual Preclinical Costs	$ -	
Animal studies	$ -	
Per Patient Phase 1	$ -	
Per Patient Phase 2 or 2b	$ 60,000	Partner
Per Patient Phase 3	$ 75,000	
Regulatory Approval Costs	$ 2,500,000	
Trial Cost for 2nd Cancer	$ 3,750,000	
CAPEX	$ -	
Licensor SG&A	0.5%	
Annual Efficiency Gain on COGS	0.0%	
Licensee COGS	31.8%	
Licensee SG&A	32.5%	

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

		Cumulative Probability
Preclinical	100.0%	100.0%
First Human Trial	100.0%	100.0%
Phase 2	45.0%	45.0%
Phase 3	50.0%	22.5%
FDA	90.0%	20.3%

OUT-LICENSE TERMS

Milestone Payments

USA	Initiation Phase 1b/2a	
	Initiation Phase 3	
	Filing NDA/BLA USA	
	Marketing Approval USA	
EU	European IND Approval	
	Initiation Human Trials	
	Acceptance MAA EMEA	
	Marketing Approval EU	
Asia	Japanese IND Approval	
	Initiation Human Trials	
	Acceptance MAA	
	Marketing Approval	

Royalty Rates

Revenues to:	
$250,000,000	8.3%
$500,000,000	9.3%
$1,000,000,000	10.3%
Above $1,000,000,000	11.3%

REGIONS INCLUDED

Pancreatic	Dev. World	TRUE
Gastric	Dev. World	TRUE

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones

Comm Phase 1	
Completion Phase 1	
Comm Phase 3	
First Commercial Sale	
FDA Approval	

Annual Fees: Up until Start Phase 2; After Comm Phase 2 to FDA Appro

Royalty Rate: Net Sales

Min Royalty

3	yr after launch
4	
5	
6	
7	ongoing

Sublicensing Fee: Before Comm Phase 1; During Phase 1; During Phase 2 or 2b

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 2	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	-	-	-	-	
Based on Incidence Rate																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		187,438	191,187	195,010	198,911	202,889	206,947	211,086	215,307	219,613	224,006	228,486	233,056	237,717	242,471	247,320	252,267	257,312	262,458	267,708	273,062	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	3.5%	5.3%	5.3%	5.3%	5.3%	5.3%	5.0%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	3,622	7,388	11,304	11,530	11,760	11,996	12,235	11,856	11,489	-	-	-	-	-	-	
Revenues USA	$ 10,000	-	-	-	-	-	**36,215,672**	**73,879,971**	**113,036,356**	**115,297,083**	**117,603,024**	**119,955,085**	**122,354,187**	**118,561,207**	**114,885,809**	-	-	-	-	-	-	**931,788,394**
PRODUCT SALES EUROPE																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues Europe	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
PRODUCT SALES REST OF WORLD																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues RoW	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Based on Prevalence Data																						
PRODUCT SALES USA																						
Number of Cases		175,113	178,615	182,188	185,831	189,548	193,339	197,206	201,150	205,173	209,276	213,462	217,731	222,086	226,527	231,058	235,679	240,393	245,200	250,104	255,107	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	3.1%	4.6%	4.6%	4.6%	4.6%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	3,068	6,258	9,574	9,766	9,961	10,160	10,364	-	-	-	-	-	-	
Revenues USA	$ 10,000	-	-	-	-	-	-	-	**30,675,343**	**62,577,701**	**95,743,882**	**97,658,760**	**99,611,935**	**101,604,174**	**103,636,257**	-	-	-	-	-	-	**591,508,052**
PRODUCT SALES EUROPE																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues Europe	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
PRODUCT SALES REST OF WORLD																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues RoW	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Total Revenues		-	-	-	-	-	**36,215,672**	**73,879,971**	**143,711,699**	**177,874,784**	**213,346,907**	**217,613,845**	**221,966,122**	**220,165,380**	**218,522,067**	-	-	-	-	-	-	**1,523,296,446**

NPV of Revenue **348,638,205**

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	-	36,215,672	73,879,971	143,711,699	177,874,784	213,346,907	217,613,845	221,966,122	220,165,380	218,522,067	-	-	-	-	-	-	1,523,296,446
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 1,875,000	1,875,000	1,875,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,750,000
Phase 3	$ 7,500,000	-	-	7,500,000	7,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,000,000
Post Market Surveillance	$ 3,750,000	-	-	-	-	-	3,750,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,750,000
FDA Fees	$ 2,500,000	-	-	-	-	2,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,500,000
COGS	31.8%	-	-	-	-	-	11,516,584	23,493,831	45,700,320	56,564,181	67,844,316	69,201,203	70,585,227	70,012,591	69,490,017	-	-	-	-	-	-	484,408,270
SG&A	32.5%	-	-	-	-	-	11,770,093	24,010,991	46,706,302	57,809,305	69,337,745	70,724,500	72,138,990	71,553,749	71,019,672	-	-	-	-	-	-	495,071,345
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	-	2,989,070	6,097,702	11,861,281	14,680,940	17,608,640	17,960,813	18,320,029	18,171,405	18,035,773	-	-	-	-	-	-	125,725,652
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**1,875,000**	**1,875,000**	**7,500,000**	**7,500,000**	**2,500,000**	**30,025,747**	**53,602,523**	**104,267,904**	**129,054,425**	**154,790,701**	**157,886,515**	**161,044,245**	**159,737,744**	**158,545,462**	**-**	**-**	**-**	**-**	**-**	**-**	**1,130,205,267**
Net Contribution Margin		**(1,875,000)**	**(1,875,000)**	**(7,500,000)**	**(7,500,000)**	**(2,500,000)**	**6,189,925**	**20,277,448**	**39,443,796**	**48,820,358**	**58,556,205**	**59,727,330**	**60,921,876**	**60,427,636**	**59,976,604**	**-**	**-**	**-**	**-**	**-**	**-**	**393,091,179**
Cumulative		(1,875,000)	(3,750,000)	(11,250,000)	(18,750,000)	(21,250,000)	(15,060,075)	5,217,373	44,661,169	93,481,527	152,037,732	211,765,062	272,686,938	333,114,574	393,091,179	393,091,179	393,091,179	393,091,179	393,091,179	393,091,179	393,091,179	

NPV Expenses	268,081,203
VALUATION (unadjusted)	**80,557,002**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 2	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	-	-	-	-	
Cumulative Risk	100%	100%	45%	45%	23%	20%	20%	20%	20%	20%	20%	20%	20%	20%	100%	100%	100%	100%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	7,333,674	14,960,694	29,101,619	36,019,644	43,202,749	44,066,804	44,948,140	44,583,490	44,250,718	-	-	-	-	-	-	308,467,530
Risk Adjusted Expenses	1,875,000	1,875,000	3,375,000	3,375,000	562,500	6,080,214	10,854,511	21,114,250	26,133,521	31,345,117	31,972,019	32,611,460	32,346,893	32,105,456	-	-	-	-	-	-	235,625,942
Risk Adjusted Cash Flow	**(1,875,000)**	**(1,875,000)**	**(3,375,000)**	**(3,375,000)**	**(562,500)**	**1,253,460**	**4,106,183**	**7,987,369**	**9,886,123**	**11,857,632**	**12,094,784**	**12,336,680**	**12,236,596**	**12,145,262**	**-**	**-**	**-**	**-**	**-**	**-**	**72,841,589**

VALUATION (probability adjusted)	**11,572,053**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 2	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	-	-	-	-	
Royalty Income		-	-	-	-	-	2,989,070	6,097,702	11,861,281	14,680,940	17,608,640	17,960,813	18,320,029	18,171,405	18,035,773	-	-	-	-	-	-	125,725,652
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Materials Supply																						
TOTAL LICENSOR REVENUE		**-**	**-**	**-**	**-**	**-**	**2,989,070**	**6,097,702**	**11,861,281**	**14,680,940**	**17,608,640**	**17,960,813**	**18,320,029**	**18,171,405**	**18,035,773**	**-**	**-**	**-**	**-**	**-**	**-**	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	-	14,945	30,489	59,306	73,405	88,043	89,804	91,600	90,857	90,179	-	-	-	-	-	-	628,628
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**5,000**	**5,000**	**5,000**	**5,000**	**5,000**	**14,945**	**30,489**	**59,306**	**73,405**	**88,043**	**89,804**	**91,600**	**90,857**	**90,179**	**-**	**-**	**-**	**-**	**-**	**-**	**653,628**
Net Contribution Margin		**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**2,974,124**	**6,067,213**	**11,801,975**	**14,607,535**	**17,520,597**	**17,871,009**	**18,228,429**	**18,080,548**	**17,945,594**	**-**	**-**	**-**	**-**	**-**	**-**	**125,072,024**
Cumulative		(5,000)	(10,000)	(15,000)	(20,000)	(25,000)	2,949,124	9,016,338	20,818,312	35,425,847	52,946,444	70,817,453	89,045,882	107,126,430	125,072,024	125,072,024	125,072,024	125,072,024	125,072,024	125,072,024	125,072,024	

NPV Expenses	160,635
VALUATION (unadjusted)	**28,614,306**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 2	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	-	-	-	-	
Cumulative Risk	100%	100%	45%	45%	23%	20%	20%	20%	20%	20%	20%	20%	20%	20%	100%	100%	100%	100%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	-	605,287	1,234,785	2,401,909	2,972,890	3,565,750	3,637,065	3,709,806	3,679,709	3,652,244	-	-	-	-	-	-	25,459,445
Risk Adjusted Expenses	5,000	5,000	2,250	2,250	1,125	3,026	6,174	12,010	14,864	17,829	18,185	18,549	18,399	18,261	-	-	-	-	-	-	142,922
Risk Adjusted Cash Flow	**(5,000)**	**(5,000)**	**(2,250)**	**(2,250)**	**(1,125)**	**602,260**	**1,228,611**	**2,389,900**	**2,958,026**	**3,547,921**	**3,618,879**	**3,691,257**	**3,661,311**	**3,633,983**	**-**	**-**	**-**	**-**	**-**	**-**	**25,316,522**

VALUATION (probability adjusted) **5,786,337**

TOTAL RISK ADJUSTED VALUATION **17,358,390**
LICENSOR FRACTION **33.3%**

12,149,463

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
			ie. discount rate to achieve same valuation without probability adjustments.
	Eff. Disc. Rate	34.7%	

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-5,000	-5,000	-2,250	-2,250	-1,125	602,260	1,228,611	2,389,900	2,958,026	3,547,921	3,618,879	3,691,257	3,661,311	3,633,983	0	0	0	0	0	0	25,316,522
Cumulative Cash Flow		-5,000	-10,000	-12,250	-14,500	-15,625	586,635	1,815,246	4,205,146	7,163,172	10,711,092	14,329,972	18,021,229	21,682,539	25,316,522	25,316,522	25,316,522	25,316,522	25,316,522	25,316,522	25,316,522	
Tax Payable		0	0	0	0	0	175,991	368,583	716,970	887,408	1,064,376	1,085,664	1,107,377	1,098,393	1,090,195	0	0	0	0	0	0	7,594,957
After Tax Cash Flow		**-5,000**	**-5,000**	**-2,250**	**-2,250**	**-1,125**	**426,270**	**860,027**	**1,672,930**	**2,070,618**	**2,483,545**	**2,533,216**	**2,583,880**	**2,562,918**	**2,543,788**	**0**	**0**	**0**	**0**	**0**	**0**	**17,721,566**

AFTER TAX VALUATION **4,049,026** **AUD** **5,471,657**

Combination Anti-mucolitic in Cancer **Cash Flow & Valuation** **Currency** US$

VALUATION DATE 1/09/2015

MARKET DATA	Gastric MA + SRCC Nth America	Europe	RoW	Colorectal SRCC Nth America	Europe	RoW
Number of Cases Forecast for Year 1	15,340	50,519	109,254	158,149	345,309	233,339
Annual Growth in Incidence	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Peak Market Penetration	4.7%	4.7%	4.7%	2.2%	2.2%	2.2%
Treatment Cost	$10,000	$8,000	$8,000	$10,000	$8,000	$8,000
Market Ramp Time to Peak Penetration (Years)	3	3	3	3	3	3
Time at Peak	5	5	5	5	5	5
Rate of Decline from Peak	5%	5%	5%	5%	5%	5%
Delay after US Launch (Years)		0	0	1	1	1
Patent Expiry	17/12/2036					
Years of Revenue (post launch)	16	16	16	15	15	15

Mucinous adenocarcinoma 10% gastric, 4.7% colorectal
SRCC 8.7% gastric
Uptake 25%
WO2014/094041 3 year extension

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	
Phase 1	1.0
Phase 2 or 1b/2a IND	1.0
Phase 3	2.0
FDA	1.0
	5

Pitman

TRIALS - End of Trial Periods	
-	Preclinical Ends
1	Phase 1 Ends
2	Phase 2 Ends
4	Phase 3 Ends
5	FDA Ends
8	Year Peak Reached
13	Year Decline Commences
16	Years of Revenue
22	Revenue Ends

Split 33.7%

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	10
Phase 2 or 2b	50
Phase 3	100

COSTS

Annual Pre-Market Patent Fees	$ 5,000
Annual Preclinical Costs	$ -
Animal studies	$ -
Per Patient Phase 1 or 1a/2b	$ 35,000
Per Patient Phase 2 or 2b	$ 60,000
Per Patient Phase 3	$ 75,000
Regulatory Approval Costs	$ 1,500,000
Phase III study in second indication	$ 2,250,000
CAPEX	$ -
Licensor SG&A	0.5%
Annual Efficiency Gain on COGS	0.0%
Licensee COGS	25.0%
Licensee SG&A	32.5%

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

		Cumulative Probability
Preclinical	100.0%	100.0%
First Human Trial	100.0%	100.0%
Phase 2	50.0%	50.0%
Phase 3	50.0%	25.0%
FDA	95.0%	23.8%

OUT-LICENSE TERMS

Milestone Payments		
USA	Initiation Phase 1b/2a	$0
	Initiation Phase 3	
	Filing NDA/BLA USA	
	Marketing Approval USA	
EU	European IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA EMEA	
	Marketing Approval EU	
Asia	Japanese IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA	$0
	Marketing Approval	$0

Royalty Rates	Revenues to:	
	$250,000,000	13.0%
	$500,000,000	14.0%
	$1,000,000,000	15.0%
Above	$1,000,000,000	16.0%

REGIONS INCLUDED

New Diagnoses	USA	TRUE
	Europe	TRUE
	RoW	TRUE
Existing Patients	USA	TRUE
	Europe	TRUE
	RoW	TRUE

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones	Comm Phase 1
	Completion Phase 1
	Comm Phase 3
	First Commercial Sale
	FDA Approval
Annual Fees	Up until Start Phase 2
	After Comm Phase 2 to FDA Appro
Royalty Rate	Net Sales
Min Royalty	3 yr after launch
	4
	5
	6
	7 ongoing
Sublicensing Fee:	Before Comm Phase 1
	During Phase 1
	During Phase 2 or 2b

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	
Based on Incidence Rate																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		15,340	15,570	15,804	16,041	16,281	16,526	16,773	17,025	17,280	17,540	17,803	18,070	18,341	18,616	18,895	19,179	19,466	19,758	20,055	20,355	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	3.1%	4.7%	4.7%	4.7%	4.7%	4.7%	4.4%	4.2%	4.0%	3.8%	3.6%	3.4%	3.3%	3.1%	
Units Sold		-	-	-	-	-	258	523	796	808	820	832	845	815	785	757	730	704	679	655	631	
Revenues USA	$ 10,000	**-**	**-**	**-**	**-**	**-**	**2,575,229**	**5,227,716**	**7,959,197**	**8,078,585**	**8,199,764**	**8,322,760**	**8,447,602**	**8,145,600**	**7,854,395**	**7,573,600**	**7,302,844**	**7,041,767**	**6,790,024**	**6,547,281**	**6,313,216**	**106,379,582**
PRODUCT SALES EUROPE																						
Number of Cases		50,519	51,277	52,046	52,827	53,619	54,423	55,240	56,068	56,909	57,763	58,629	59,509	60,401	61,307	62,227	63,160	64,108	65,069	66,046	67,036	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	3.1%	4.7%	4.7%	4.7%	4.7%	4.7%	4.4%	4.2%	4.0%	3.8%	3.6%	3.4%	3.3%	3.1%	
Units Sold		-	-	-	-	-	848	1,722	2,621	2,661	2,700	2,741	2,782	2,683	2,587	2,494	2,405	2,319	2,236	2,156	2,079	
Revenues Europe	$ 8,000	**-**	**-**	**-**	**-**	**-**	**6,784,773**	**13,773,089**	**20,969,527**	**21,284,070**	**21,603,331**	**21,927,381**	**22,256,292**	**21,460,630**	**20,693,412**	**19,953,623**	**19,240,281**	**18,552,441**	**17,889,191**	**17,249,652**	**16,632,977**	**280,270,670**
PRODUCT SALES REST OF WORLD																						
Number of Cases		109,254	110,893	112,556	114,245	115,958	117,698	119,463	121,255	123,074	124,920	126,794	128,696	130,626	132,585	134,574	136,593	138,642	140,721	142,832	144,975	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	3.1%	4.7%	4.7%	4.7%	4.7%	4.7%	4.4%	4.2%	4.0%	3.8%	3.6%	3.4%	3.3%	3.1%	
Units Sold		-	-	-	-	-	1,834	3,723	5,669	5,754	5,840	5,928	6,017	5,801	5,594	5,394	5,201	5,015	4,836	4,663	4,496	
Revenues RoW	$ 8,000	**-**	**-**	**-**	**-**	**-**	**14,672,966**	**29,786,121**	**45,349,369**	**46,029,609**	**46,720,053**	**47,420,854**	**48,132,167**	**46,411,442**	**44,752,233**	**43,152,340**	**41,609,644**	**40,122,100**	**38,687,734**	**37,304,648**	**35,971,007**	**606,122,286**
Based on Prevalence Data																						
PRODUCT SALES USA																						
Number of Cases		158,149	160,521	162,929	165,373	167,854	170,371	172,927	175,521	178,154	180,826	183,538	186,291	189,086	191,922	194,801	197,723	200,689	203,699	206,755	209,856	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	1.5%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.5%	
Units Sold		-	-	-	-	-	-	1,254	2,545	3,875	3,933	3,992	4,052	4,113	3,966	3,824	3,687	3,555	3,428	3,306	3,187	
Revenues USA	$ 10,000	**-**	**-**	**-**	**-**	**-**	**-**	**12,537,205**	**25,450,525**	**38,748,425**	**39,329,651**	**39,919,596**	**40,518,390**	**41,126,165**	**39,655,905**	**38,238,206**	**36,871,191**	**35,553,045**	**34,282,024**	**33,056,442**	**31,874,674**	**487,161,443**
PRODUCT SALES EUROPE																						
Number of Cases		345,309	350,489	355,746	361,082	366,498	371,996	377,576	383,239	388,988	394,823	400,745	406,756	412,858	419,051	425,336	431,716	438,192	444,765	451,436	458,208	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	1.5%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.5%	
Units Sold		-	-	-	-	-	-	2,737	5,557	8,460	8,587	8,716	8,847	8,980	8,659	8,349	8,051	7,763	7,485	7,218	6,960	
Revenues Europe	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**21,899,396**	**44,455,775**	**67,683,917**	**68,699,176**	**69,729,663**	**70,775,608**	**71,837,242**	**69,269,061**	**66,792,692**	**64,404,853**	**62,102,380**	**59,882,220**	**57,741,430**	**55,677,174**	**850,950,589**
PRODUCT SALES REST OF WORLD																						
Number of Cases		233,339	236,839	240,392	243,998	247,658	251,372	255,143	258,970	262,855	266,797	270,799	274,861	278,984	283,169	287,417	291,728	296,104	300,545	305,054	309,629	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	1.5%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.5%	
Units Sold		-	-	-	-	-	-	1,850	3,755	5,717	5,803	5,890	5,978	6,068	5,851	5,642	5,440	5,246	5,058	4,877	4,703	
Revenues RoW	$ 8,000	**-**	**-**	**-**	**-**	**-**	**-**	**14,798,292**	**30,040,532**	**45,736,710**	**46,422,760**	**47,119,102**	**47,825,888**	**48,543,277**	**46,807,855**	**45,134,474**	**43,520,916**	**41,965,044**	**40,464,793**	**39,018,177**	**37,623,277**	**575,021,095**
Total Revenues		**-**	**-**	**-**	**-**	**-**	**24,032,968**	**98,021,817**	**174,224,925**	**227,561,316**	**230,974,736**	**234,439,357**	**237,955,947**	**237,524,356**	**229,032,860**	**220,844,936**	**212,949,729**	**205,336,776**	**197,995,987**	**190,917,630**	**184,092,325**	**2,905,905,665**

NPV of Revenue **501,455,829**

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	-	24,032,968	98,021,817	174,224,925	227,561,316	230,974,736	234,439,357	237,955,947	237,524,356	229,032,860	220,844,936	212,949,729	205,336,776	197,995,987	190,917,630	184,092,325	2,905,905,665
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 3,750,000	-	3,750,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,750,000
Phase 3	$ 3,750,000	-	-	3,750,000	3,750,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,500,000
Post Market Surveillance	$ 2,250,000	-	-	-	-	-	2,250,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,250,000
FDA Fees	$ 1,500,000	-	-	-	-	1,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,500,000
COGS	25.0%	-	-	-	-	-	6,008,242	24,505,454	43,556,231	56,890,329	57,743,684	58,609,839	59,488,987	59,381,089	57,258,215	55,211,234	53,237,432	51,334,194	49,498,997	47,729,408	46,023,081	726,476,416
SG&A	32.5%	-	-	-	-	-	7,810,715	31,857,091	56,623,101	73,957,428	75,066,789	76,192,791	77,335,683	77,195,416	74,435,680	71,774,604	69,208,662	66,734,452	64,348,696	62,048,230	59,830,006	944,419,341
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	-	3,112,698	12,695,572	22,565,232	29,473,245	29,915,343	30,364,073	30,819,535	30,763,636	29,663,836	28,603,354	27,580,784	26,594,771	25,644,008	24,727,235	23,843,236	376,366,556
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**-**	**3,750,000**	**3,750,000**	**3,750,000**	**1,500,000**	**19,181,654**	**69,058,117**	**122,744,564**	**160,321,001**	**162,725,816**	**165,166,704**	**167,644,204**	**167,340,141**	**161,357,731**	**155,589,192**	**150,026,878**	**144,663,417**	**139,491,700**	**134,504,872**	**129,696,323**	**2,062,262,313**
Net Contribution Margin		**-**	**(3,750,000)**	**(3,750,000)**	**(3,750,000)**	**(1,500,000)**	**4,851,314**	**28,963,701**	**51,480,361**	**67,240,315**	**68,248,919**	**69,272,653**	**70,311,743**	**70,184,215**	**67,675,130**	**65,255,744**	**62,922,851**	**60,673,359**	**58,504,287**	**56,412,758**	**54,396,002**	**843,643,352**
Cumulative		-	(3,750,000)	(7,500,000)	(11,250,000)	(12,750,000)	(7,898,686)	21,065,015	72,545,376	139,785,690	208,034,610	277,307,263	347,619,006	417,803,221	485,478,351	550,734,095	613,656,946	674,330,305	732,834,592	789,247,350	843,643,352	

NPV Expenses	362,448,367
VALUATION (unadjusted)	**139,007,462**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	
Cumulative Risk	100%	100%	50%	50%	25%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	
Risk Adjusted Revenues	-	-	-	-	-	5,707,830	23,280,182	41,378,420	54,045,813	54,856,500	55,679,347	56,514,537	56,412,035	54,395,304	52,450,672	50,575,561	48,767,484	47,024,047	45,342,937	43,721,927	690,152,596
Risk Adjusted Expenses	-	3,750,000	1,875,000	1,875,000	375,000	4,555,643	16,401,303	29,151,834	38,076,238	38,647,381	39,227,092	39,815,498	39,743,283	38,322,461	36,952,433	35,631,384	34,357,562	33,129,279	31,944,907	30,802,877	494,634,174
Risk Adjusted Cash Flow	**-**	**(3,750,000)**	**(1,875,000)**	**(1,875,000)**	**(375,000)**	**1,152,187**	**6,878,879**	**12,226,586**	**15,969,575**	**16,209,118**	**16,452,255**	**16,699,039**	**16,668,751**	**16,072,843**	**15,498,239**	**14,944,177**	**14,409,923**	**13,894,768**	**13,398,030**	**12,919,051**	**195,518,421**

VALUATION (probability adjusted)	**29,632,790**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	
Royalty Income		-	-	-	-	-	3,112,698	12,695,572	22,565,232	29,473,245	29,915,343	30,364,073	30,819,535	30,763,636	29,663,836	28,603,354	27,580,784	26,594,771	25,644,008	24,727,235	23,843,236	376,366,556
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Materials Supply																						
TOTAL LICENSOR REVENUE		**-**	**-**	**-**	**-**	**-**	**3,112,698**	**12,695,572**	**22,565,232**	**29,473,245**	**29,915,343**	**30,364,073**	**30,819,535**	**30,763,636**	**29,663,836**	**28,603,354**	**27,580,784**	**26,594,771**	**25,644,008**	**24,727,235**	**23,843,236**	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ 350,000	350,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350,000
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	-	15,563	63,478	112,826	147,366	149,577	151,820	154,098	153,818	148,319	143,017	137,904	132,974	128,220	123,636	119,216	1,881,833
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**355,000**	**5,000**	**5,000**	**5,000**	**5,000**	**15,563**	**63,478**	**112,826**	**147,366**	**149,577**	**151,820**	**154,098**	**153,818**	**148,319**	**143,017**	**137,904**	**132,974**	**128,220**	**123,636**	**119,216**	**2,256,833**
Net Contribution Margin		**(355,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**3,097,134**	**12,632,094**	**22,452,406**	**29,325,878**	**29,765,767**	**30,212,253**	**30,665,437**	**30,609,818**	**29,515,517**	**28,460,337**	**27,442,880**	**26,461,797**	**25,515,788**	**24,603,598**	**23,724,020**	**374,109,723**
Cumulative		(355,000)	(360,000)	(365,000)	(370,000)	(375,000)	2,722,134	15,354,228	37,806,634	67,132,512	96,898,279	127,110,532	157,775,969	188,385,786	217,901,303	246,361,640	273,804,520	300,266,317	325,782,105	350,385,703	374,109,723	

NPV Expenses	645,846
VALUATION (unadjusted)	**64,301,618**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	
Cumulative Risk	100%	100%	50%	50%	25%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	
Risk Adjusted Revenues	-	-	-	-	-	739,266	3,015,198	5,359,243	6,999,896	7,104,894	7,211,467	7,319,639	7,306,364	7,045,161	6,793,297	6,550,436	6,316,258	6,090,452	5,872,718	5,662,769	89,387,057
Risk Adjusted Expenses	355,000	5,000	2,500	2,500	1,250	3,696	15,076	26,796	34,999	35,524	36,057	36,598	36,532	35,226	33,966	32,752	31,581	30,452	29,364	28,314	813,185
Risk Adjusted Cash Flow	**(355,000)**	**(5,000)**	**(2,500)**	**(2,500)**	**(1,250)**	**735,569**	**3,000,122**	**5,332,446**	**6,964,896**	**7,069,370**	**7,175,410**	**7,283,041**	**7,269,832**	**7,009,935**	**6,759,330**	**6,517,684**	**6,284,677**	**6,060,000**	**5,843,355**	**5,634,455**	**88,573,872**

VALUATION (probability adjusted) **15,031,727**

TOTAL RISK ADJUSTED VALUATION **44,664,516**

LICENSOR FRACTION **33.7%**

31,217,812

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
			ie. discount rate to achieve same valuation without probability adjustments.
	Eff. Disc. Rate	31.1%	

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-355,000	-5,000	-2,500	-2,500	-1,250	735,569	3,000,122	5,332,446	6,964,896	7,069,370	7,175,410	7,283,041	7,269,832	7,009,935	6,759,330	6,517,684	6,284,677	6,060,000	5,843,355	5,634,455	88,573,872
Cumulative Cash Flow		-355,000	-360,000	-362,500	-365,000	-366,250	369,319	3,369,442	8,701,888	15,666,784	22,736,154	29,911,564	37,194,605	44,464,437	51,474,372	58,233,702	64,751,386	71,036,063	77,096,062	82,939,417	88,573,872	
Tax Payable		0	0	0	0	0	110,796	900,037	1,599,734	2,089,469	2,120,811	2,152,623	2,184,912	2,180,950	2,102,981	2,027,799	1,955,305	1,885,403	1,818,000	1,753,006	1,690,336	26,572,161
After Tax Cash Flow		**-355,000**	**-5,000**	**-2,500**	**-2,500**	**-1,250**	**624,774**	**2,100,086**	**3,732,712**	**4,875,427**	**4,948,559**	**5,022,787**	**5,098,129**	**5,088,882**	**4,906,955**	**4,731,531**	**4,562,379**	**4,399,274**	**4,242,000**	**4,090,348**	**3,944,118**	**62,001,710**

AFTER TAX VALUATION **10,474,859** **AUD** **14,155,215**

PPL-1 in Canine Cancer

Cash Flow & Valuation

Currency US$

VALUATION DATE 1/09/2015

MARKET DATA	Increment on Full Approval			Conditional Approval		
	Nth America	Europe	RoW	Nth America	Europe	RoW
Number of Cases Forecast for Year 1	80,000,000	60,000,000	50,000,000	80,000,000	60,000,000	
Annual Growth in Incidence	2.5%	2.5%	1.5%	2.5%	2.5%	
Peak Market Penetration	0.06%	0.05%	0.01%	0.02%	0.02%	
Treatment Cost	$2,000	$2,000	$1,750	$2,000	$2,000	
Market Ramp Time to Peak Penetration (Years)	3	3	4	3	3	
Time at Peak	5	5	1	5	5	
Rate of Decline from Peak	0%	0%	0%	0%	0%	
Delay after US Launch (Years)		0	0	-1	-1	
Patent Expiry	5/08/2033					
Years of Revenue (post launch)	13	13	13	14	14	13

Cancer	Market Share	Treated	
25%	10%	3.0%	US
Cond. Approval		2.5%	EU
25%		0.5%	
WO2014/022879			

DURATION OF PHASES (YEARS)

Discovery, Preclinical & IND	-
Further evaluation and licensing lag	1.0
Phase 2	1.0
Phase 3	2.0
FDA	1.0
	5

TRIALS - End of Trial Periods	
-	Preclinical Ends
1	Phase 1 Ends
2	Phase 2 Ends
4	Phase 3 Ends
5	FDA Ends
8	Year Peak Reached
13	Year Decline Commences
13	Years of Revenue
19	Revenue Ends

Split 33.3%

NUMBER OF CLINICAL TRIAL SUBJECTS

Phase 1	-
Phase 2	100
Phase 3	250

COSTS

Annual Pre-Market Patent Fees	$ 5,000
Annual Preclinical Costs	$ -
Animal studies	$ -
Per Patient Phase 1	$ -
Per Patient Phase 2	$ 10,000
Per Patient Phase 3	$ 15,000
Regulatory Approval Costs	$ 1,000,000
Post Market Surveillence	$ -
CAPEX	$ -
Licensor SG&A	0.5%
Annual Efficiency Gain on COGS	0.0%
Licensee COGS	40.0%
Licensee SG&A	32.5%

RATES

Licensor Tax Rate	30.0%
Discount Rate	15.0%

RISK ADJUSTMENT (completing phase)

		Cumulative Probability
Preclinical	100.0%	100.0%
First Human Trial	100.0%	100.0%
Phase 2 Conditional	60.0%	60.0%
Phase 3 Full	60.0%	36.0%
FDA	95.0%	34.2%

OUT-LICENSE TERMS

Milestone Payments		
USA	Initiation Phase 1b/2a	
	Initiation Phase 3	
	Filing NDA/BLA USA	
	Marketing Approval USA	
EU	European IND Approval	
	Initiation Human Trials	
	Acceptance MAA EMEA	
	Marketing Approval EU	
Asia	Japanese IND Approval	$0
	Initiation Human Trials	$0
	Acceptance MAA	$0
	Marketing Approval	$0

Royalty Rates	Revenues to:	
	$250,000,000	8.8%
	$500,000,000	8.8%
	$1,000,000,000	8.8%
Above	$1,000,000,000	8.8%

REGIONS INCLUDED

New Diagnoses	USA	TRUE
	Europe	TRUE
	RoW	TRUE
Existing Patients	USA	TRUE
	Europe	TRUE
	RoW	

DEVELOPERS' FEES PAYABLE BY PHARMAUST

Milestones	Comm Phase 1	
	Completion Phase 1	
	Comm Phase 3	
	First Commercial Sale	
	FDA Approval	
Annual Fees	Up until Start Phase 2	
	After Comm Phase 2 to FDA Appro	
Royalty Rate	Net Sales	
Min Royalty	3 yr after launch	
	4	
	5	
	6	
	7 ongoing	
Sublicensing Fee:	Before Comm Phase 1	
	During Phase 1	
	During Phase 2 or 2b	

SALES FORECASTS

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
	Year Comm. 1-Sep	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
DEVELOPMENT STAGE USA		Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Based on Full Approval																						
PRODUCT SALES USA	Unit Price																					
Number of Cases		80,000,000	82,000,000	84,050,000	86,151,250	88,305,031	90,512,657	92,775,473	95,094,860	97,472,232	99,909,038	102,406,764	104,966,933	107,591,106	110,280,884	113,037,906	115,863,853	118,760,450	121,729,461	124,772,697	127,892,015	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.019%	0.038%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.056%	0.000%	0.000%	
Units Sold		-	-	-	-	-	16,971	34,791	53,491	54,828	56,199	57,604	59,044	60,520	62,033	63,584	65,173	66,803	68,473	-	-	
Revenues USA	$ 2,000	**-**	**-**	**-**	**-**	**-**	**33,942,246**	**69,581,605**	**106,981,718**	**109,656,261**	**112,397,667**	**115,207,609**	**118,087,799**	**121,039,994**	**124,065,994**	**127,167,644**	**130,346,835**	**133,605,506**	**136,945,644**	**-**	**-**	**1,439,026,522**
PRODUCT SALES EUROPE																						
Number of Cases		60,000,000	61,512,000	63,062,102	64,651,267	66,280,479	67,950,747	69,663,106	71,418,617	73,218,366	75,063,468	76,955,068	78,894,336	80,882,473	82,920,711	85,010,313	87,152,573	89,348,818	91,600,408	93,908,738	96,275,238	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	10,617	21,770	33,477	34,321	35,186	36,073	36,982	37,914	38,869	39,849	40,853	41,882	42,938	-	-	
Revenues Europe	$ 2,000	**-**	**-**	**-**	**-**	**-**	**21,234,609**	**43,539,441**	**66,954,953**	**68,642,218**	**70,372,002**	**72,145,376**	**73,963,440**	**75,827,318**	**77,738,167**	**79,697,169**	**81,705,537**	**83,764,517**	**85,875,383**	**-**	**-**	**901,460,128**
PRODUCT SALES REST OF WORLD																						
Number of Cases		50,000,000	50,750,000	51,511,250	52,283,919	53,068,178	53,864,200	54,672,163	55,492,246	56,324,629	57,169,499	58,027,041	58,897,447	59,780,909	60,677,622	61,587,787	62,511,603	63,449,277	64,401,017	65,367,032	66,347,537	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	1,683	3,417	5,202	7,041	7,146	7,253	7,362	7,473	7,585	7,698	7,814	7,931	8,050	-	-	
Revenues RoW	$ 1,750	**-**	**-**	**-**	**-**	**-**	**2,945,698**	**5,979,768**	**9,104,197**	**12,321,013**	**12,505,828**	**12,693,415**	**12,883,817**	**13,077,074**	**13,273,230**	**13,472,328**	**13,674,413**	**13,879,529**	**14,087,722**	**-**	**-**	**149,898,032**
Based on Conditional Approval																						
PRODUCT SALES USA																						
Number of Cases		80,000,000	82,000,000	84,050,000	86,151,250	88,305,031	90,512,657	92,775,473	95,094,860	97,472,232	99,909,038	102,406,764	104,966,933	107,591,106	110,280,884	113,037,906	115,863,853	118,760,450	121,729,461	124,772,697	127,892,015	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	5,519	11,314	17,395	17,830	18,276	18,733	19,201	19,681	20,173	20,678	21,195	21,724	22,268	22,824	-	-	
Revenues USA	$ 2,000	**-**	**-**	**-**	**-**	**11,038,129**	**22,628,164**	**34,790,803**	**35,660,573**	**36,552,087**	**37,465,889**	**38,402,536**	**39,362,600**	**40,346,665**	**41,355,331**	**42,389,215**	**43,448,945**	**44,535,169**	**45,648,548**	**-**	**-**	**513,624,653**
PRODUCT SALES EUROPE																						
Number of Cases		60,000,000	61,512,000	63,062,102	64,651,267	66,280,479	67,950,747	69,663,106	71,418,617	73,218,366	75,063,468	76,955,068	78,894,336	80,882,473	82,920,711	85,010,313	87,152,573	89,348,818	91,600,408	93,908,738	96,275,238	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	3,452	7,078	10,885	11,159	11,440	11,729	12,024	12,327	12,638	12,956	13,283	13,618	13,961	14,313	-	-	
Revenues Europe	$ 2,000	**-**	**-**	**-**	**-**	**6,904,217**	**14,156,406**	**21,769,721**	**22,318,318**	**22,880,739**	**23,457,334**	**24,048,459**	**24,654,480**	**25,275,773**	**25,912,722**	**26,565,723**	**27,235,179**	**27,921,506**	**28,625,128**	**-**	**-**	**321,725,702**
PRODUCT SALES REST OF WORLD																						
Number of Cases		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Market Share		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Units Sold		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Revenues RoW	$ -	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0**
Total Revenues		**-**	**-**	**-**	**-**	**17,942,346**	**94,907,123**	**175,661,338**	**241,019,758**	**250,052,317**	**256,198,720**	**262,497,395**	**268,952,135**	**275,566,824**	**282,345,444**	**289,292,078**	**296,410,909**	**303,706,226**	**311,182,424**	**-**	**-**	**3,325,735,037**

NPV of Revenue **641,165,271**

LICENSEE CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
PRODUCT REVENUE		-	-	-	-	17,942,346	94,907,123	175,661,338	241,019,758	250,052,317	256,198,720	262,497,395	268,952,135	275,566,824	282,345,444	289,292,078	296,410,909	303,706,226	311,182,424	-	-	3,325,735,037
EXPENSES	Annual Costs																					
Patent Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ 1,000,000	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000,000
Phase 3	$ 1,875,000	-	-	1,875,000	1,875,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,750,000
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ 1,000,000	-	-	-	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000,000
COGS	40.0%	-	-	-	-	7,176,938	37,962,849	70,264,535	96,407,903	100,020,927	102,479,488	104,998,958	107,580,854	110,226,729	112,938,178	115,716,831	118,564,364	121,482,490	124,472,969	-	-	1,330,294,015
SG&A	32.5%	-	-	-	-	5,831,262	30,844,815	57,089,935	78,331,421	81,267,003	83,264,584	85,311,654	87,409,444	89,559,218	91,762,269	94,019,925	96,333,546	98,704,523	101,134,288	-	-	1,080,863,887
Milestone Payments to Licensor (USA)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments to Licensor (EU)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments (to Licensor)		-	-	-	-	1,583,860	8,377,923	15,506,498	21,276,010	22,073,359	22,615,932	23,171,947	23,741,739	24,325,651	24,924,033	25,537,247	26,165,662	26,809,655	27,469,616	-	-	293,579,131
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**-**	**1,000,000**	**1,875,000**	**1,875,000**	**15,592,060**	**77,185,587**	**142,860,968**	**196,015,334**	**203,361,289**	**208,360,004**	**213,482,559**	**218,732,037**	**224,111,598**	**229,624,480**	**235,274,004**	**241,063,571**	**246,996,669**	**253,076,874**	**-**	**-**	**2,710,487,033**
Net Contribution Margin		**-**	**(1,000,000)**	**(1,875,000)**	**(1,875,000)**	**2,350,285**	**17,721,536**	**32,800,370**	**45,004,424**	**46,691,029**	**47,838,716**	**49,014,836**	**50,220,098**	**51,455,226**	**52,720,964**	**54,018,075**	**55,347,339**	**56,709,557**	**58,105,550**	**-**	**-**	**615,248,004**
Cumulative		-	(1,000,000)	(2,875,000)	(4,750,000)	(2,399,715)	15,321,821	48,122,192	93,126,615	139,817,644	187,656,360	236,671,196	286,891,294	338,346,520	391,067,484	445,085,558	500,432,897	557,142,454	615,248,004	615,248,004	615,248,004	

NPV Expenses	525,001,862
VALUATION (unadjusted)	**116,163,410**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	60%	60%	36%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	6,459,244	32,458,236	60,076,177	82,428,757	85,517,893	87,619,962	89,774,109	91,981,630	94,243,854	96,562,142	98,937,891	101,372,531	103,867,529	106,424,389	-	-	1,137,724,345
Risk Adjusted Expenses	-	1,000,000	1,125,000	1,125,000	5,613,142	26,397,471	48,858,451	67,037,244	69,549,561	71,259,121	73,011,035	74,806,357	76,646,166	78,531,572	80,463,709	82,443,741	84,472,861	86,552,291	-	-	928,892,722
Risk Adjusted Cash Flow	**-**	**(1,000,000)**	**(1,125,000)**	**(1,125,000)**	**846,103**	**6,060,765**	**11,217,727**	**15,391,513**	**15,968,332**	**16,360,841**	**16,763,074**	**17,175,273**	**17,597,687**	**18,030,570**	**18,474,181**	**18,928,790**	**19,394,668**	**19,872,098**	**-**	**-**	**208,831,622**

VALUATION (probability adjusted)	**38,656,718**

LICENSOR CASH FLOW

Cash Flow		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE		Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Royalty Income		-	-	-	-	1,583,860	8,377,923	15,506,498	21,276,010	22,073,359	22,615,932	23,171,947	23,741,739	24,325,651	24,924,033	25,537,247	26,165,662	26,809,655	27,469,616	-	-	293,579,131
Milestone Income		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Materials Supply																						
TOTAL LICENSOR REVENUE		**-**	**-**	**-**	**-**	**1,583,860**	**8,377,923**	**15,506,498**	**21,276,010**	**22,073,359**	**22,615,932**	**23,171,947**	**23,741,739**	**24,325,651**	**24,924,033**	**25,537,247**	**26,165,662**	**26,809,655**	**27,469,616**	**-**	**-**	
EXPENSES	Annual Costs																					
Patent Fees	$ 5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25,000
Preclinical Research	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal Studies	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 1	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 2	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase 3	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Market Surveillance	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FDA Fees	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.5%	-	-	-	-	7,919	41,890	77,532	106,380	110,367	113,080	115,860	118,709	121,628	124,620	127,686	130,828	134,048	137,348	-	-	1,467,896
CAPEX	$ -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SG&A	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milestone Payments & Annual Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Royalty Payments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments on Sublicences		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs		**5,000**	**5,000**	**5,000**	**5,000**	**12,919**	**41,890**	**77,532**	**106,380**	**110,367**	**113,080**	**115,860**	**118,709**	**121,628**	**124,620**	**127,686**	**130,828**	**134,048**	**137,348**	**-**	**-**	**1,492,896**
Net Contribution Margin		**(5,000)**	**(5,000)**	**(5,000)**	**(5,000)**	**1,570,941**	**8,336,033**	**15,428,965**	**21,169,630**	**21,962,992**	**22,502,852**	**23,056,088**	**23,623,031**	**24,204,022**	**24,799,413**	**25,409,561**	**26,034,833**	**26,675,607**	**27,332,268**	**-**	**-**	**292,086,236**
Cumulative		(5,000)	(10,000)	(15,000)	(20,000)	1,550,941	9,886,974	25,315,939	46,485,569	68,448,560	90,951,413	114,007,500	137,630,531	161,834,553	186,633,966	212,043,527	238,078,360	264,753,967	292,086,236	292,086,236	292,086,236	

NPV Expenses	299,755
VALUATION (unadjusted)	**56,299,084**

PROBABILITY ADJUSTED VALUATION

	YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
DEVELOPMENT STAGE	Phase 1	Phase 2	Phase 3	Phase 3	FDA	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	-	-	
Cumulative Risk	100%	100%	60%	60%	36%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	100%	100%	
Risk Adjusted Revenues	-	-	-	-	570,190	2,865,250	5,303,222	7,276,395	7,549,089	7,734,649	7,924,806	8,119,675	8,319,373	8,524,019	8,733,738	8,948,656	9,168,902	9,394,609	-	-	100,432,572
Risk Adjusted Expenses	5,000	5,000	3,000	3,000	4,651	14,326	26,516	36,382	37,745	38,673	39,624	40,598	41,597	42,620	43,669	44,743	45,845	46,973	-	-	519,963
Risk Adjusted Cash Flow	**(5,000)**	**(5,000)**	**(3,000)**	**(3,000)**	**565,539**	**2,850,923**	**5,276,706**	**7,240,013**	**7,511,343**	**7,695,976**	**7,885,182**	**8,079,076**	**8,277,776**	**8,481,399**	**8,690,070**	**8,903,913**	**9,123,058**	**9,347,636**	**-**	**-**	**99,912,610**

VALUATION (probability adjusted) **19,261,411**

TOTAL RISK ADJUSTED VALUATION **57,918,129**
LICENSOR FRACTION **33.3%**

40,541,532

Calculation for Effective Discount Rate	Difference	0	Use Goal Seek to set to Zero by adjusting Eff. Disc. Rate
			ie. discount rate to achieve same valuation without probability adjustments.
	Eff. Disc. Rate	27.5%	

PROBABILITY ADJUSTED VALUATION AFTER TAX

		YEAR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20 Year Total
Tax on probability Adjusted Cash Flows	30%																					
Risk Adjusted Cash Flow		-5,000	-5,000	-3,000	-3,000	565,539	2,850,923	5,276,706	7,240,013	7,511,343	7,695,976	7,885,182	8,079,076	8,277,776	8,481,399	8,690,070	8,903,913	9,123,058	9,347,636	0	0	99,912,610
Cumulative Cash Flow		-5,000	-10,000	-13,000	-16,000	549,539	3,400,462	8,677,168	15,917,181	23,428,525	31,124,500	39,009,682	47,088,759	55,366,534	63,847,933	72,538,003	81,441,916	90,564,974	99,912,610	99,912,610	99,912,610	
Tax Payable		0	0	0	0	164,862	855,277	1,583,012	2,172,004	2,253,403	2,308,793	2,365,555	2,423,723	2,483,333	2,544,420	2,607,021	2,671,174	2,736,917	2,804,291	0	0	29,973,783
After Tax Cash Flow		**-5,000**	**-5,000**	**-3,000**	**-3,000**	**400,677**	**1,995,646**	**3,693,694**	**5,068,009**	**5,257,940**	**5,387,183**	**5,519,627**	**5,655,354**	**5,794,443**	**5,936,979**	**6,083,049**	**6,232,739**	**6,386,140**	**6,543,345**	**0**	**0**	**69,938,827**

AFTER TAX VALUATION **13,481,829** **AUD** **18,218,688**

EPICHEM HISTORICAL AND PROJECTED CASH FLOWS

	Actual							Projected						
	2011	2012	2013	2014	2015			2016	2017	2018	2019	2020	2021	2021
	1	2	3	4	5			6	7	8	9	10	11	
Extrapolation of Past Performance														
Revenues	1,529,357	1,590,632	1,692,600	1,891,620	2,052,504	AAGR		**Trend**	2,155,527	2,290,255	2,424,984	2,559,712	2,694,440	
Growth		4.0%	6.4%	11.8%	8.5%	7.7%	5 years		5.0%	6.3%	5.9%	5.6%	5.3%	
						8.9%	3 years		**2,238,812**	**2,418,764**	**2,598,716**	**2,778,668**	**2,958,620**	**3,138,572**
Gross Margin	1,529,357	1,590,077	1,692,202	1,891,244	2,052,396				9.1%	8.0%	7.4%	6.9%	6.5%	6.1%
Expenses	1,655,595	1,494,348	1,605,789	1,772,704	2,231,877				2,181,339	2,324,431	2,467,523	2,610,615	2,753,707	2,896,799
% Revenues	108%	94%	95%	94%	109%				101%	101%	102%	102%	102%	
Depreciation	59,860	52,537	45,995	50,011	70,264				75,000	80,000	85,000	90,000	95,000	100,000
exp % (less Dep)	104%	91%	92%	91%	105%									
						Exp @		90%	2,014,931	2,176,888	2,338,844	2,500,801	2,662,758	2,824,715
						NPBT			148,881	161,876	174,872	187,867	200,862	213,857
						CF Losses			-433,904					
						Tax			0	0	15,518	56,360	60,259	64,157
						NPAT			**148,881**	**161,876**	**159,354**	**131,507**	**140,603**	**149,700**
						Capex			50,000	50,000	50,000	50,000	50,000	50,000
						Cash Flow			173,881	191,876	194,354	171,507	185,603	199,700
						Terminal Value								898,650.18
						NPV		**10%**	**1,315,047**					
Operating Profit	-126,238	95,729	86,413	118,540	-179,481									

			Actual					Projected					
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021
Business Plan														
Revenues								2,553,750	3,081,113	3,657,607	4,475,176	5,795,629	8,023,821	8,425,012
Growth								24.4%	20.7%	18.7%	22.4%	29.5%	38.4%	
Expenses (less Capex)								2,522,560	2,866,136	3,251,559	3,465,742	4,217,639	4,955,979	5,476,258
								98.8%	93.0%	88.9%	77.4%	72.8%	61.8%	
Cap Ex										60,000	100,000	200,000	400,000	50,000
Depreciation								70,000	70,000	76,000	86,000	106,000	146,000	151,000
	Interest on loan							0	201,338	95,962	82,699	40,950	17,612	
NPBT	NPBT							-38,810	-56,361	234,086	840,735	1,431,040	2,904,230	2,797,754
	CF Losses							-433,904						
	Tax							0	0	0	163,724	429,312	871,269	839,326
	NPAT							**-38,810**	**-56,361**	**234,086**	**677,011**	**1,001,728**	**2,032,961**	**1,958,428**
	Capex							50,000	30,000	60,000	100,000	200,000	400,000	50,000
	Repayment of Loan							0	23,663	204,038	642,301	359,050	270,949	0
	Cash Flow							**-18,810**	**-40,023**	**46,048**	**20,710**	**548,678**	**1,508,012**	**2,059,428**
	Terminal Value													9,267,426
	NPV	**35%**						**1,746,567**						
	Loan Repayment Schedule:							1	2	3	4	5	6	
	Borrowings							1,500,000	1,597,500	1,476,338	1,272,299	629,999	270,949	
	Interest	6.50%						97,500	103,838	95,962	82,699	40,950	17,612	
	Repayment								225,000	300,000	725,000	400,000	288,561	
	EOY Balance							1,597,500	1,476,338	1,272,299	629,999	270,949	0	
	Apportionment to Interest								201,338	95,962	82,699	40,950	17,612	
	Apportionment to Principle								23,663	204,038	642,301	359,050	270,949	

Pharmaceutical / Nutraceutical Company Metrics

Company Analyses	NovoNordisk	Merck	Sanofi	GSK	Novartis	Amgen	Abbott Labs	J&J	CSL	Bayer	Virbac	Vetoquinol	Zoetis	AVE
Revenues	13,788	42,237	45,894	35,872	53,634	20,063	20,247	74,331	5,335	38,230	773	515	4,785	
COGS	2,379	16,768	15,144	11,418	17,345	4,422	9,218	22,746	2,604	20,168	245	155	1,717	
COGS % of Revenues	**17.3%**	**39.7%**	**33.0%**	**31.8%**	**32.3%**	**22.0%**	**45.5%**	**30.6%**	**48.8%**	**52.8%**	**31.7%**	**30.1%**	**35.9%**	**31.8%**
SG&A	4,274	11,606	10,801	13,466	16,114	5,153	6,530	21,954		11,958			1,643	
% of Revenues	**31.0%**	**27.5%**	**23.5%**	**37.5%**	**30.0%**	**25.7%**	**32.3%**	**29.5%**		**31.3%**			**34.3%**	**30.3%**
R&D	1,926	7,180	6,573	5,379	9,086	4,297	1,345	8,494		3,033			396	
% of Revenues	**14.0%**	**17.0%**	**14.3%**	**15.0%**	**16.9%**	**21.4%**	**6.6%**	**11.4%**		**7.9%**			**8.3%**	**14.6%**
P/E	34.1	14.0	27.7	27.8	23.7	24.33	32.1	17.73	32.84	31.35	28.7	17.22	58.1	**28.4**
Beta	0.75	0.43	1.15	0.96	0.65	0.58	1.1	0.95					0.84	**0.82**
WACC	8.0	6.4	9.2	8.3	7.0	5.2	6.3	8.4	8.2	8.8	2.0	2.2	7.8	**7.60**

ATTACHMENT IX

Acuity Technology Management

ACUITY Technology Management provides management consulting to technology based companies. The company is skilled in the development of business plans and the technical, commercial and financial analyses of engineering and science based projects. An area of special interest is the provision of advice to investors and financial institutions on the funding of high technology R&D and the exploitation of outcomes.

The valuation was undertaken by Acuity's Managing Director, David Randerson. Dr Randerson specializes in the valuation of intangible assets, and business entities whose main assets are intangibles, with particular expertise in IP. Valuations have been performed for purposes of licensing, capital raising and investment, sale, depreciation and amortisation, impairment, purchase price allocation, consolidation, mergers, acquisitions, stock options and goodwill.

Dr Randerson has experience with valuing pharmaceuticals, stem cells, medical devices, diagnostics, agriculture, biochemical and cell culture technologies and environmental products. In the fields of physical and applied sciences, he has valued software, internet, electronics, telecommunications, mining and petrochemical projects, process engineering, production engineering and automotive technologies. Research-in-process is of particular interest to Dr Randerson.

Dr Randerson has a Bachelor of Chemical Engineering (Monash University), Master of Science in Applied Science(UNSW) and a Doctorate of Philosophy in Biomedical Engineering (UNSW). He is a fellow of the Australian Institute of Company Directors and a member of the Institution of Chemical Engineers. Dr Randerson considers his engineering and biomedical expertise as essential prerequisites for the types of analyses he performs. An understanding of physical and life sciences, research and development, project management, probability and statistics, discounted cash flow methodologies, real options analysis, life cycle forecasting, engineering depreciation and functional obsolescence analysis, are amongst the important tools in which Dr Randerson has competence.

As principal of Acuity for 24 years, Dr Randerson has undertaken in excess of 200 valuations in biomedical sciences and 100 in applied sciences. Significant clients of Acuity have included Deloitte Corporate Finance, Mesoblast Limited, several Cooperative Research Centres, legal and accounting practices, and many listed and private high technology companies, research institutes and university technology transfer organisations.

- **GlaxoSmithKline Limited / Stieffel, Inc / Connetics Australia Pty Ltd /** - valuations of a range of dermatological pharmaceutical development products for tax consolidation, transfer pricing purposes.
- **Phosphagenics Limited** - valuations of all pharmaceutical development programs for tax consolidation and impairment.
- **Cavidi Tech AB** (Sweden) - HIV viral load and drug susceptibility tests as acquired by **Narhex Ltd**.
- **HealthLinx Ltd** – peptide drug development for acute respiratory distress syndrome.
- **Zenyth Therapeutics Limited** - independent expert report for notice to shareholders in relation to **CSL Limited** acquisition bid.
- **Angioblast, Inc** (USA) - independent expert report for shareholders in relation to share acquisition by **Mesoblast Limited**.
- **ACRUX Limited** - drug delivery systems for prospectus and subsequent acquisition of patents from **Monash University**.
- **Ventracor Limited** - left venricular assist pump, artificial heart for acquisition of patents from **University of Technology Sydney**.
- **CochlearLimited** - Fully implantable microphone for cochlear implant acquired from *Otologics, Inc*.

- **CSL Limited** - Epstein Barr virus vaccine for treatment of infectious mononulceosis (glandular fever) & recombinant antibody technology available through CSIRO and its application to anti-asthma and eye disease for purposes of licensing.