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Analyst John Hester 612 8224 2871

Authorisation Tanushree Jain 612 8224 2849

Recommendation

Buy (unchanged) **Price** \$0.18 Valuation (12 months) \$0.33 (previously \$0.15) **Risk** Speculative

GICS Sector

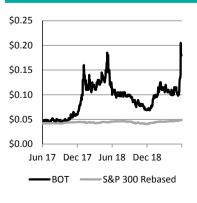
Pharmaceuticals & Biotechnology

Expected Return	
Capital growth	83%
Dividend yield	0%
Total expected return	83%
Company Data & Ratio	s
Enterprise value	\$130.2m
Market cap	\$139.2m
Issued capital	773.1m
Free float	88%
Avg. daily val. (52wk)	\$241,000
12 month price range	\$0.07 - \$0.21

Price Performance

	(1m)	(3m)	(12m)
Price (A\$)	0.12	0.11	0.12
Absolute (%)	56.5	63.6	56.5
Rel market (%)	54.2	55.6	48.8

Absolute Price



SOURCE: IRESS

BELL POTTER SECURITIES LIMITED ACN 25 006 390 772 AFSL 243480

Botanix Pharmaceuticals (BOT)

Superbugs Lookout



Clients.

Numerous Short Term Catalysts

The recent share price movement in BOT was driven by the announcement of new data from preclinical work concerning the efficacy of cannabidiol containing BTX1801 as lethal to Gram Positive staphylococcus aureus and other bacteria. The data also showed that despite 21 days of exposure, these bacteria did not develop resistance. While the antimicrobial properties of THC and CBD have been known for years, this new data represents a potential new solution to the fatal outcomes associated with antibiotic resistant bacterial infection.

The company also completed a proof of concept study in an animal model and the data is supportive of further investigation. BOT is yet to announce further studies pending the completion of the lead programs in both acne and atopic dermatitis.

Recruitment of the phase 2 acne study is now complete and announcement of headline results is due in 3Q19. The phase 2 Atopic Dermatitis study is also due to read out later this calendar year. Both are considered major value inflexion points.

BOT has also announced headline results from a small study designed to investigate the mechanism of action for BTX1308 in the treatment of psoriasis. This gene regulation study showed down regulation of numerous genes associated with disease proliferation. To our knowledge this is the first study of gene regulation following treatment with CBD and the data provides proof of the mechanism of action from this drug class. Further studies are planned.

Retain Buy (Speculative), Valuation raised to \$0.33

We have added an earnings stream for BTX1803 and made adjustments to the risk factors in the risk adjusted DCF model following the passing of the US Farm bill in late 2019. Earnings are largely unchanged, however, the valuation is increased to \$0.33/share.

June Year End	FY18	FY19e	FY20e	FY21e
Revenues	1.8	3.3	26.3	14.0
EBITDA \$m	-11.1	-11.7	15.7	6.7
NPAT (underlying) \$m	-11.0	-11.7	15.7	6.7
NPAT (reported) \$m	-11.0	-11.7	15.7	6.7
EPS underlying (cps)	-2.3	-1.5	2.0	0.8
EPS growth %	-108%	35%	235%	-58%
PER (x)	nm	nm	9.1	21.5
FCF yield (%)	nm	nm	nm	6%
EV/EBITDA (x)	nm	(11.2)	8.3	19.5
Dividend (cps)	-	-	-	-
Franking	0%	0%	0%	0%
Yield %	0%	0%	0%	0%
ROE %	0%	-266%	78%	25%

DISCLAIMER: THIS REPORT MUST BE READ WITH THE DISCLAIMER ON PAGE 10 THAT FORMS PART OF IT. DISCLOSURE: BELL POTTER SECURITIES ACTED AS LEAD MANAGER OF THE COMPANY'S 2018 \$8M PLACEMENT AND RECEIVED FEES FOR THAT SERVICE.

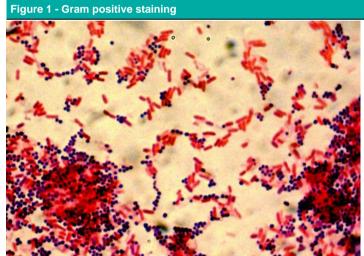
Short Term Catalysts in 2019

What is Gram Positive Staphylococcus Aureus

Bacteria are generally classified as one of two broad categories: Gram positive and Gram negative. These categories are based on cell wall composition and reaction to the Gram stain test. The Gram staining method (developed by microbiologist Hans Christian Gram) identifies bacteria based upon the reaction of their cell walls to certain dyes and chemicals.

The differences between Gram positive vs Gram negative bacteria are primarily related to their cell wall composition. Gram positive bacteria have cell walls composed mostly of a substance unique to bacteria known as **peptidoglycan**, or murein. These bacteria stain purple after Gram staining. Gram negative bacteria have cell walls with only a thin layer of peptidoglycan and an outer membrane with a lipopolysaccharide component not found in Gram positive bacteria. Gram negative bacteria stain red or pink after Gram staining¹.

As a generalisation, gram positive bacteria are normally harmless and are present in the human gut and are essential to the digestion of food. Gram negative bacteria are less so and include, for example Vibrio cholera responsible for the waterborne cholera.



SOURCE: THOUGHTCO. COM, PURPLE STAINS ARE GRAM POSITIVE BACTERIA, RED STAINS ARE GRAM NEGATIVE BACTERIA

Gram positive cocci refer to gram positive bacteria that are shaped in a sphere. Two of the most potent forms are Staphylococcus epidermidis and Staphylococcus aureus. These are normally harmless on unbroken skin, however, they can cause infection on broken skin or within a blocked sweat or sebaceous gland.

Some Staphylococcus aureus strains including methicillin resistant staphylococcus aureus (MRSA) have become resistant to antibiotics and are extremely difficult for modern antibiotics to kill.

The standard of care for the treatment of infections caused by these bacteria are antibiotic drugs. The main classes of antibiotic drugs include but are not limited to penicillin based (amoxicillin), macrolides (erythromycin), Fluoroquinolones (levofloxacin) and tetracyclines (doxycyline).

The need to develop new treatments has arisen because of the resistance these bacteria have developed to the standard of care therapies.

¹ Taken from thoughtco.com/gram positive gram negative bacteria 4174239

Cannabis As An Antibacterial

The antibacterial properties of Cannabis Sativa have been known for decades and the medicinal qualities of the plant have been known for centuries. In more recent times, however, the legal obstacles to growing and possessing these plants has been an important barrier to development of Cannabis as a treatment for bacterial infection.

Nevertheless, the literature on this topic is extensive and there are many studies available for review. Each of these studies appear to relate to a whole plant extract, hence it is not unreasonable to assume that the exact mechanism of action remains unknown.

The antibacterial property of the cannabis plant is contributed mainly from Delta -9 THC and CBD. In recent times the work of Wasim et al (1995) testing ethanol and cannabis extracts confirmed a strong inhibitory effect on certain gram positive and gram negative bacteria². Nissen et al (2010) assessed the in vitro antimicrobial activity of essential oils extracted from three low THC hemp varieties. The group tested against gram positive bacteria including Clostridium and pectobacterium and showed that the oil from one particular strain was the only one able to inhibit growth of the bacteria. The group concluded that there are many compounds out of 480 already discovered in the cannabis plant that have not been tested for antimicrobial properties.

BTX 1801 for antibacterial use

BTX1801 is a synthetic cannabinoid developed by BOT for use as an antimicrobial. The company has now released the findings of the antimicrobial testing completed by Dr Mark Blaskovich of the University of Queensland. The work builds on the many previous studies in the field. Dr Blaskovich's work confirmed the following:

- BTX1801 is a broad spectrum gram positive antibiotic. It proved effective in killing 132 different gram positive bacteria including staphylococcus aureus and MRSA (aka golden staph);
- MRSA bacteria did not develop resistance despite 21 days of continuous treatment; and
- BTX 1801 achieved proof of concept in a widely used animal model (in immunocompromised mice) finding that the drug formulation was effective in treating a skin infection.

These findings were presented in a poster at the American Society for Microbiology last weekend. While this preclinical work points towards being efficacious, the drug is yet to be tested in humans.

The next phase of development of BTX1801 is to optimise dosing and develop a clinical trial in a target skin infection indication. The formulation of BTX1801 is a tightly held trade secret that is also protected by patents (most of which are pending).

INTELLECTUAL PROPERTY

All BOT products including BTX1801 are synthetic cannabinoids, rather than plant derived. BOT is one of only a handful of companies pursuing clinical trials for the development of medicinal cannabis products globally.

BOT is focused on developing products for topical applications. All BOT products utilise the Permetrex topical delivery technology for which BOT has the exclusive global right to all drugs that treat skin disease.

The key patents on BTX1801 cover the formulation which is the combination of the synthetic drug with the permetrex technology and the dose. The company is also likely to

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² Wassim et al Antimicrobial Studies of the leaf of cannabis sativa. Pakistan Journal of Pharmaceutical Science (Vol 8, 1995 pp22 -38)

pursue a qualified infectious disease product (QIDP) designation with the US FDA. This designation allows for an additional 5 years of marketing exclusivity following drug approval. In the addition, this designation allows for fast track designation and priority review.

The additional 5 years of exclusivity on marketing becomes redundant if the patents are held to be valid (i.e. patent life is 20 years), nevertheless, the QIDP designation is worthwhile for the fast track and priority review designation.

BTX1801 is being developed as a prescription medicine. Being a prescription only product, if approved, it will have a significant advantage compared to over the counter CBD products. For starters, label claims will have been proved by an extensive clinical trial program, hence the quality of the product can be assured as compared to OTC products. OTC products are largely unregulated and accordingly there may be significant variations in quality and outcomes.

Note that BTX1801 is probably not suitable for the treatment of systemic infection. The only data available today is in-vivo and mouse data delivered via a topical application. There is no data to suggest this therapy would be effective in the treatment of systemic infection – albeit we would suggest this area will almost certainly attract investigation if the clinical work in skin infection is successful. Extensive clinical work is required to determine efficacy in skin infection and other systemic infection.

Update On Clinical Trial Progress

BOT has two phase 2 studies due to report later this year. These represent crucial value inflexion points for the company.

Figure 2 - Update on clinical trial progress						
Indication	Phase	Patients	Design	Primary endpoint	Latest update	
BTX1503 - Moderate to severe acne in children >12 ys	Phase 2	360	4 way, randomised, double blind, controlled	Change from baseline to week 12 vs non active placebo	June 2019 - completed enrolment, headline results due in September quarter	
BTX1204 Moderate atopic dermatitis	Phase 2	200	2 way, randomised, double blind, controlled	ISGA score of "clear" or " almost clear" with at least a 2 grade improvement from baseline at week 12	Recruitment is continuing and study remains on course for completion in 4Q19	
Completed Studies						
BTX1308 Psoriasis	Phase 1b	15	Gene regulation study only	Safety	Phase 1b study completed in 2Q 2019	
BTX1801 Antimicrobial	Pre clinic	al			Pre clinical work complete. Proof of concept in mice also complete	

SOURCE: COMPANY DATA AND BELL POTTER SECURITIES ESTIMATES

Recruitment of the acne study is complete with headline results due next quarter.

Recruitment of the atopic dermatitis study is progressing with headline results due before the end of calendar 2019.

Note that in both studies the control is a non-active placebo. Earlier phase 1 results in both indications were highly encouraging and showed comparable efficacy to market leading treatments.

Mechanism of action data for BTX1308

Earlier this month the company released the interim results from the BTX1308 psoriasis Phase 1b mechanism of action study. The headline result confirmed that BTX1308 has significant anti-inflammatory and immune modulating activity in skin disease.

The 15 patients in the study all completed the treatment. Skin biopsies were collected from 10 patients following treatment (i.e. after receiving either BTX1308 or placebo over a

period of 19 days.) Biopsies were collected from the untreated psoriatic and normal skin from the same patient to serve as controls.

The investigators then undertook a detailed analysis of over 50,000 genes to determine the difference in gene expression between the normal, treated and untreated psoriatic skin. What they found was confirmation that genes contributing to the key inflammatory disease pathways known to be involved in psoriasis, specifically the p38 MAP Kinase pathway and Interleukin-6 (IL-6), were significantly down-regulated in psoriatic skin biopsies that had been treated with BTX1308, compared to placebo treated, or untreated psoriasis lesion biopsies.

To our knowledge, this is the first time the mechanism of action data for CBD has been generated in a randomised clinical study. We regard this data as highly meaningful for future partners and investors. This sort of quantifiable, objective data is highly desirable for mainstream pharmaceutical buyers.

igure 3 - Heat	Map of Genes	s Regulated by	BTX1308 vs P	soriatic skin , normal and vehicle
10.09 ***	9.66 *	9.5 **	7.99	FCHSD1
8.19 ***	7.88	7.63 *	6.28	DEFB103B
11.26 ***	10.35	10.4	7.27	SPRR2C
11.57 ***	11.16	10.86 *	9.2	ATP12A
10.2 ***	10.05	9.67	8.18	XDH
9.99 ***	9.84	9.34	6.31	IL19
10.7 ***	10.2	10.07	7.05	IGFL1
8.7 ***	8.46	8.18 *	5.82	PLA2G4D
11.53 ***	11.15	10.75 **	9.53	UPP1
8.75 ***	8.21 *	8.23 *	7.24	MIR155HG
8.05 ***	6.63 ***	6.87 **	5.04	REN
7.45 ***	6.81	6.28 ***	5.69	CXCL8
7.65 ***	6.9 *	6.5 ***	5.27	IL36A
10.62 ***	10.48	10.12	9.56	DHRS9
8.75 ***	8.63	8.25	7.66	FAM3D
9.25 **	9.28	8.15 *	7.62	MMP1
9.06 ***	8.33 *	8.11 **	7.17	CHAC1
8.27 ***	7.54	7.1	6.02	SOST
9.57 ***	8.51	8.57	7.32	MMP12
8.72 ***	8.67	8.1 *	7.59	STEAP1B
4.61 ***	4.58	4.04 **	3.59	C7orf57
6.82 ***	6.81	5.97 **	5.62	CLDN17
5.07 ***	5.48	4.44	3.48	CXCL6
7.21 ***	7.42	6.66 *	5.19	NWD2
9.68 ***	9.06 **	9.15 *	8.63	GLB1L2
8.94 ***	8.23 *	8.29 *	7.59	CDC42EP5
8.88 ***	8.34 **	8.38 *	7.08	SNHG3
7.58 ***	7.21	7.05 *	6.34	PSG7
11.74 ***	11.37	11.13 **	10.72	CRCT1
6.92 **	6.31	5.75 ***	5.96	TREM1
6.27 ***	5.81 **	5.66 ***	5.45	HMGN2P46
Psoriatic Skin	Vehicle	1308	Normal Skin	I



SOURCE: COMPANY DATA

This heat map lists the top 30 down regulated genes following treatment with BTX1308 with the untreated psoriatic skin in the left hand most column. We observe a clear reduction in gene expression in the biopsies treated with BTX1308 relative to the others.

Some of these genes are associated with the immune modulating pathway Interleukin-13. In particular Small proline-rich protein 2C (SPRR2C), Potassium-transporting ATPase alpha chain 2 ATP12A, and Interleukin-8 (CXCL8).

The biopsy data also showed significant down-regulation of genes involved in the atopic dermatitis relevant Th2 immune response, primarily through the Interleukin-13 (IL-13) cytokine pathway. In other words, the Th2 immune response was lowered without

compromising overall immune system activity. These are highly encouraging results and worthy of further investigation.

These insight are not limited to psoriasis i.e. the company believes there are parallels in the mechanism of action for both acne and atopic dermatitis as both have significant inflammatory and immune components.

Patients in this study were treated for 19 days which is considered too short to achieve a significant improvement in the condition of the psoriasis. The purpose of the study was to examine the gene regulation.

Follow on studies will no doubt consider efficacy over an extended treatment period.

Next Steps

The company last reported cash reserves (at 31 march 2019) of \$9.3m with a quarterly cash burn of ~\$4m hence we expect cash reserves at 30 June 2019 of approximately \$5m.

In the short term, the company is on track to announce the headline results from the two phase 2 studies before the end of 2019. These outcomes are crucial to the overall valuation.

Our valuation assumes that the phase 2 trials deliver results that warrant further investment in clinical programs. Depending on the strength of the signals from these trials, the company may have several options for approval studies including partnering early in one or both indications or funding an approval program internally. The latter option is likely to require further capital from shareholders.

The detailed financial page assumes the company partners the acne indication in 2020 with proceeds to be used to fund clinical trials in other indications. This is one potential outcome.

BOT plans to finalise the design of a phase 1b/2a clinical study for BTX1801 (antimicrobial therapy) during 2019 with a view to commencing a study pending completion of the lead programs in acne and atopic dermatitis.

The company is yet to announce plans for a further study in psorasis.

In conclusion, should these lead programs deliver encouraging results, the prospects for either a considerable licensing deal or an acquisition of the company loom large. BOT will have data in 4 separate indications and a leading clinical program for the development of medicinal cannabis products.

Valuation

There are minimal changes to the assumptions for the existing drug portfolio. We have added milestone revenue from a future license deal for BTX1801, albeit heavily discounted for probability of success at this time. We have also rolled forward the valuation date to 30 June 2020.

In our view the mechanism of action data in psoriasis is highly relevant to partnering and commercialisation discussions, accordingly, we have adjusted the risk factors in the risk adjusted DCF model in a manner to increase the valuation of the portfolio.

Since initiation of coverage in November 2018, the US Congress passed the 2018 Farm Bill. This event has proved to be a major catalyst for the Hemp CBD industry in the US with major pharmaceutical groups now approaching the topic of medical cannabis with a renewed degree of enthusiasm. We consider BOT has a leading portfolio of drug candidates in the field and is likely to draw the attention of mainstream pharma as its results are announced.

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Our DCF valuation is adjusted to \$0.33 (from \$0.15). Based on the current shares outstanding the implied Enterprise value at our valuation is ~A\$255m (US\$178m).

The following table summarises key deal terms of relevant transactions in the dermatology space. These transactions are relevant for the milestone revenues and are an underlying driver of our valuation.

Year of Deal		Drug Name	Treatment Use	Deal Type	Acquirer	Licensor/Vendor C	linical Stage	Upfront Payment (\$US)	Potential Deal Value (Excl. Upfront)
20	10	Axiron	Low Testosterone	License	Ely Lilly	Acrux P	ost Phase III	\$50m	\$282m Milestones + Royalties
20	15	Doryx	Acne	Acquisition	Mayne Pharma	Actavis	On Market	\$50m	N/A
20	15	Siliq	Psoriasis	License	Valeant	Astra Zeneca P	ost Phase III	\$100m	\$170m Milestones + Royalties
20	16	Tralokinumab	AD & Psoriasis	License	Leo Pharma	Astra Zeneca 'o	ost Phase IIb	\$115m	\$1b Royalties
20	16	Pegcantratinib	AD & Psoriasis	Acquisition	Sienna Pharma	Creabilis	Phase IIb	Undisclosed	\$150m Milestones
20	16	Eucrisa	AD	Acquisition	Pfizer	AnacorP	ost Phase III	\$4.5b	N/A
20	18 Halo	betasol Foam	Plaque psoriasis	Acquisition	Vayne Pharma	Private company	Approved	US\$10m	US\$22m in milestones plus annual
									earnout payments over 10 years
20)18	JW1601	AD	License	Leo Pharma	JW Pharmaceutic	Pre IND	\$17m	US\$385m plus 2% royalty US\$115m in development milestone
20	19	Lebrikizumab	AD	License	Almirall	Dermira	Phase 2b	\$30m + \$50m	plus royalties

We note the addition of one new license deal in this table, announced 25 June 2019 between Almirall and Dermira for its mAB Lebrikizumab. This deals relates to commercialisation in Europe only. Almirall will pay a further US\$50m on exercise of its option for this drug and US\$115m in development milestones and milestones on certain sales thresholds. Royalties are also payable. This is significant deal which is likely to be worth well over US\$200m if the drug reaches the market.

Lebrikizumab is a novel injectable mAB, designed to bind to IL-13 inhibiting its inflammatory cascade – one of the targets identified in the gene regulation study conducted by BOT for BTX1308.

Eucrisa continues to disappoint selling just US\$22m of product in 1Q19.

The other deals in this table suggest that the valuation of US\$178m is not unreasonable, particularly considering there are 4 potential indications on offer.

Botanix Pharmaceuticals

Botanix Pharmaceuticals is an Australian biotech company engaged in the development of novel compounds for the treatment of a range of dermatological conditions. All products utilise synthetic cannabidiol (CBD) in conjunction with Permetrex[™] skin delivery technology. The company has exclusive rights to this technology for all drugs that treat dermatology conditions. The first two indications are for chronic acne and atopic dermatitis (AD).

Key Risk Areas

Over the counter competition: The burgeoning market for nutraceutical CBD products presents a potential risk. These over the counter (OTC) formulations of plant derived CBD are gaining in popularity every quarter. OTC products are widely available throughout the US (by mail order) and in retail outlets and are relatively cheap, particularly for US patients without health insurance cover. It is likely there will be markets for both OTC products and pharmaceutical grade products. Competition may also emerge from other drug developers seeking to develop products involving synthetic CBD.

Efficacy remains unproven: Plant derived CBD products consist of well over 100 different types of CBD in a single product. Industry literature indicates the presence of an entourage effect whereby each of these compounds work together to generate the general healing effect whereas the Botanix products consist of a single synthetic cannabinoid. While the safety and efficacy data from clinical trials is encouraging, the long term efficacy and safety from BOT's products are yet to be studied in a large randomised trial.

Intellectual Property: The strength of the patents and other instruments protecting the intellectual property of Botanix are yet to be tested in the court. If Botanix's registered intellectual property is invalidated or removed from intellectual property registers this will adversely impact the long term earnings capacity of the company

Clinical Risk: BTX1503, BTX1204 and BTX1308 are a variation in dosage of the same active compound (CBD). Hence, if the company's leading asset BTX1503 is unsuccessful in phase II, this may increase the likelihood of further clinical failure in BTX1204, BTX1308 the other indications.

Financing Risk: The company is likely to require further capital from shareholders in order to progress its clinical program. The need for additional capital depends on numerous factors including the results from clinical studies and the willingness of development partners to engage in discussion for the commercialisation of BOT's various assets.

Regulatory Risk: The use of CBD for medicinal purposes remains at the fringe of mainstream medicine, hence there is no certainty that even with appropriate evidence from clinical trials that the company will secure a deal to commercialise these drugs.

DEA: Synthetic cannabidiol is a "Schedule 1" drug substance under the Controlled Substances Act (US) and is subject to strict control and regulation by the US DEA (Drug Enforcement Agency). The manufacture and handling of controlled substances is subject to strict limitations. Should any 3rd party be involved in the manufacture, handling or clinical trials involving the Botanix drugs lose their accreditation, these many hamper or halt entirely the development and commercialisation process.

Commercialisation: The company will almost certainly require a distribution partner in each market around the world. In the United States the ability of a distribution partner to sell these drugs will depend upon inclusion on various private payer formulary lists. Ultimately the distribution partner and the payers will determine the net price for each sale and this process is generally outside of the control of drug developers like Botanix.

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Botanix Pharmaceuticals	Recommendation	Buy, Speculative
as at 26 June 2019	Price	\$0.18
	Valuation (12 months)	\$0.33

Table 1 - Financial summary

Profit & Loss (A\$m)	FY17	FY18	FY19e	FY20e	FY21e
Year Ending June					
BTX1503 - Acne	-	-	-	21.3	-
BTX1204 - AD	-	-	-	-	12.0
BTX1308 - Psoriasis	-	-	-	-	-
R&D incentive	-	1.8	3.3	5.0	2.0
Total Revenue	-	1.8	3.3	26.3	14.0
COGS	-	-	-	-	-
Gross profit	-	1.8	3.3	26.3	14.0
GP margin	0%	100%	100%	100%	100%
Expenses Net of R&D	1.1	1.9	2.3	2.3	2.3
Total Clinical R&D Expense	3.7	11.0	12.7	8.3	5.0
Total Expenses	4.8	12.9	15.0	10.6	7.3
EBITDA	(4.8)	(11.1)	(11.7)	15.7	6.7
Depreciation	-	-	-	-	-
Amortisation	•	•	-	-	•
EBIT	-4.8	-11.1	-11.7	15.7	6.7
Interest expense	0.0	0.0	0.0	0.0	0.0
Pre tax profit	(4.7)	(11.0)	(11.7)	15.7	6.7
Tax expense	-		-	-	-
NPAT- normalised	(4.7)	(11.0)	(11.7)	15.7	6.7
Reported NPAT	(4.7)	(11.0)	(11.7)	15.7	6.7
	5/43	5/40	EV40	5/00	E)(0.4)
Cashflow (A\$m)	FY17	FY18	FY19e	FY20e	FY21e
Orean analyfiau	47	10.1	44.0	40.0	
Gross cashflow	-4.7	-10.1	-11.8	13.8	7.7
Net interest	0.0	0.1	0.0	0.0	0.0
Net interest Operating cash flow	0.0 -4.7	0.1 -9.9	0.0 -11.8	0.0 13.8	0.0 7.7
Net interest Operating cash flow Proceeds from asset sales	0.0 -4.7 0.0	0.1 -9.9 0.0	0.0 -11.8 0.0	0.0 13.8 0.0	0.0 7.7 0.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow	0.0 -4.7 0.0 -4.7	0.1 -9.9 0.0 -9.9	0.0 -11.8 0.0 -11.8	0.0 13.8 0.0 13.8	0.0 7.7 0.0 7.7
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions	0.0 -4.7 0.0 -4.7 0.0	0.1 -9.9 0.0 -9.9 0.0	0.0 -11.8 0.0 -11.8 0.0	0.0 13.8 0.0 13.8 0.0	0.0 7.7 0.0 7.7 0.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance	0.0 -4.7 0.0 -4.7 0.0 6.9	0.1 -9.9 0.0 -9.9 0.0 21.6	0.0 -11.8 0.0 -11.8 0.0 0.0	0.0 13.8 0.0 13.8 0.0 0.0	0.0 7.7 0.0 7.7 0.0 0.0 0.0
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Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 -11.8	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 0.0 13.8	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0 7.7
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 -11.8 17.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 0.0 13.8 5.5	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0 7.7 19.3
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7 0.0	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 0.0 -11.8 17.3 0.0	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 0.0 13.8 5.5 0.0	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0 7.7 19.3 0.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 -11.8 17.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 0.0 13.8 5.5	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0 7.7 19.3
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7 0.0	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 0.0 -11.8 17.3 0.0	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 0.0 13.8 5.5 0.0	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 0.0 7.7 19.3 0.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7 0.0 17.3	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 -11.8 17.3 0.0 5.5	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 13.8 5.5 0.0 19.3	0.0 7.7 0.0 7.7 0.0 0.0 0.0 7.7 19.3 0.0 27.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m)	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7 0.0 17.3 FY18	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e	0.0 13.8 0.0 13.8 0.0 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e	0.0 7.7 0.0 7.7 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7	0.1 -9.9 0.0 21.6 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3	0.0 7.7 0.0 7.7 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7	0.1 -9.9 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3 2.2	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0 1.2
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables Short term investments	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7	0.1 -9.9 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3 2.2	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0 1.2
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables Short term investments Other current assets	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7	0.1 -9.9 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3 2.2	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0 1.2
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables Short term investments Other current assets Property, Plant and Equipment	0.0 -4.7 0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7	0.1 -9.9 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3 2.2	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0 1.2
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables Short term investments Other current assets Property, Plant and Equipment Intangible assets	0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7 0.2 - - - - -	0.1 -9.9 0.0 -9.9 0.0 21.6 0.0 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4 0.0 - - - -	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3 0.0 - - - -	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 FY20e 19.3 2.2 0.0 - - - -	0.0 7.7 0.0 7.7 0.0 0.0 0.0 0.0 7.7 19.3 0.0 27.0 FY21e 27.0 1.2 0.0 - -
Net interest Operating cash flow Proceeds from asset sales Free cash flow Business acquistions Proceeds from issuance Movement in borrow ings Other Change in cash held Cash at beginning of period FX adjustment Cash at year end Balance Sheet (A\$m) Cash Receivables Short term investments Other current assets Property, Plant and Equipment Intangible assets Total assets	0.0 -4.7 0.0 6.9 -0.2 0.0 2.0 3.7 0.0 5.7 FY17 5.7 0.2 - - - 5.9	0.1 -9.9 0.0 21.6 0.0 21.6 0.0 11.6 5.7 0.0 17.3 FY18 17.3 0.4 0.0 - - - 17.7	0.0 -11.8 0.0 -11.8 0.0 0.0 0.0 -11.8 17.3 0.0 5.5 FY19e 5.5 0.3 0.0 - - - 5.5 0.3 0.0 - 5.5	0.0 13.8 0.0 13.8 0.0 0.0 0.0 13.8 5.5 0.0 19.3 2.2 0.0 19.3 2.2 0.0 - - 21.5	0.0 7.7 0.0 7.7 0.0 0.0 0.0 7.7 19.3 0.0 27.0 27.0 1.2 0.0 - - 28.2

-

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5.4

11.6

(6.4)

0.2

5.4

-

1.4

16.3

33.3

(17.5)

0.4

16.3

-

1.4

4.4

33.3

(29.1)

0.2

4.4

-

1.4

20.1

33.3

(13.4)

0.2

20.1

-

1.4

26.8

33.3

(6.7)

0.2

26.8

Valuation Ratios (A\$m)	FY17	FY18	FY19e	FY20e	FY21e
Reported EPS (cps)	-1.1	-2.3	-1.5	2.0	0.8
Normalised EPS (cps)	-1.1	-2.3	-1.5	2.0	0.8
EPS grow th (%)	0%	-108%	35%	235%	-58%
PE(x)	nm	nm	nm	9.1	21.5
EV/EBITDA (x)	nm	nm	-11.2	8.3	19.5
EV/EBIT (x)	nm	nm	-11.2	8.3	19.5
P/NTA (x)	18.0	8.4	31.1	6.8	5.1
Book Value Per Share (cps)	1.0	2.1	0.6	2.7	3.5
Price/Book (x)	18.0	8.4	31.1	6.8	5.1
DPS (cps)	-	-	-	-	-
Payout ratio %	0%	0%	0%	0%	0%
Dividend Yield %	0.0%	0.0%	0.0%	0.0%	0.0%
Franking %	0%	0%	0%	0%	0%
FCF yield %	nm	nm	nm	nm	6%
Net debt/Equity	0%	0%	0%	0%	0%
Net debt/Assets	0%	0%	0%	0%	0%
Gearing	net cash				
Net debt/EBITDA (x)	n/a	n/a	n/a	n/a	n/a
Interest cover (x)	n/a	n/a	n/a	n/a	n/a

SOURCE: BELL POTTER SECURITIES ESTIMATES

Other provisions

Total Liabilities

Retained earnings

Shareholders Equity

Net Assets

Share capital

Reserves

Recommendation structure

Buy: Expect >15% total return on a 12 month view. For stocks regarded as 'Speculative' a return of >30% is expected.

Hold: Expect total return between -5% and 15% on a 12 month view

Sell: Expect <-5% total return on a 12 month view

Speculative Investments are either start-up enterprises with nil or only prospective operations or recently commenced operations with only forecast cash flows, or companies that have commenced operations or have been in operation for some time but have only forecast cash flows and/or a stressed balance sheet.

Such investments may carry an exceptionally high level of capital risk and volatility of returns.

Bell Potter Securities Limited ACN 25 006 390 7721 Level 29, 101 Collins Street Melbourne, Victoria, 3000 Telephone +61 3 9256 8700 www.bellpotter.com.au

Research Team

Central, Hong Kong, 0000 Telephone +852 3750 8400

	Staff Member	Title/Sector	Phone	@bellpotter.com.au
on a	TS Lim	Head of Research	612 8224 2810	tslim
arded	Industrials			
% is	Steven Anastasiou	Industrials	613 9235 1952	sanastasiou
	James Filius	Industrials	613 9235 1612	jfilius
en -5%	Sam Haddad	Industrials	612 8224 2819	shaddad
	Alex McLean	Industrials	612 8224 2886	amclean
	Hamish Murray	Industrials	613 9235 1813	hmurray
on a	Chris Savage	Industrials	612 8224 2835	csavage
	Jonathan Snape	Industrials	613 9235 1601	jsnape
er start-up	Damien Williamson	Industrials	613 9235 1958	dwilliamson
ective	Healthcare/Biotech			
ed	John Hester	Healthcare	612 8224 2871	jhester
h flows. or	Tanushree Jain	Healthcare/Biotech	612 8224 2849	tnjain
d	Financials			
- ntion for	TS Lim	Banks/Regionals	612 8224 2810	tslim
t cash	Lafitani Sotiriou	Diversified Financials/Fintech	613 9235 1668	Isotiriou
sheet.	Resources			
	Peter Arden	Resources	613 9235 1833	parden
	David Coates	Resources	612 8224 2887	dcoates
risk and	Stuart Howe	Resources	613 9235 1856	showe
Room 1701,	Securities (HK) Limited 17/F wer, 39 Queens Road	Bell Potter Securities (US) LLC Floor 39 444 Madison Avenue, New York	Bell Potter Secu 16 Berkeley Stree London, England	
		•	. 0	

W1J 8DZ. United Kinadom

Telephone +44 7734 2929

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NY 10022 U.S.A

Telephone +1 917 819 1410

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The fact that the intellectual property base of a typical biotechnology company lies in science not generally regarded as accessible to the layman adds further to the riskiness with which biotechnology investments ought to be regarded. Clinical and regulatory risks are inherent in biotechnology stocks. Biotechnology developers usually seek US FDA approval for their technology which is a long and arduous three phase process to prove the safety, effectiveness and appropriate application or use of the developed drug and even after approval a drug can be the subject of an FDA investigation of subsequently discovered possible links between the drug and other diseases not previously diagnosed. Furthermore, the Australian exchange listed biotechnology sector is subject to influence by the global biotechnology sector, particularly that in the USA. Consequently, Australian exchange listed biotechnology stocks can experience sharp movements, both upwards and downwards, in both valuations and share prices, as a result of a re-rating of the sector both globally and in the USA, in particular. Investors are advised to be cognisant of these risks before buying such a stock.

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