Biotech Daily

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Daily news on ASX-listed biotechnology companies

Dr Boreham's Crucible: Adalta

By TIM BOREHAM

ASX code: 1AD

Share price: 25 cents

Market cap: $29.4 million

Shares on issue: 117,604,523

Chief executive officer: Samantha Cobb

Board: Dr Paul MacLeman (chairman), Samantha Cobb, Dr Robert Peach, Dr John Chiplin, Liddy McCall (Yuuwa rep) and Dr James Williams (Yuuwa rep).

Financials (December quarter) revenue nil, cash burn $213,000, cash $5.36 million *****, estimated current quarter cash outflows $3.27 million.

Identifiable major shareholders: Yuuwa Capital 46%, Platinum Asset Management 9.8%, Citycastle (Leon Serry) 4.6%, La Trobe University 2.6%, (Peter) Meurs Holdings 2.8%, Robin Beaumont 1.6%, Sam Cobb 1.2%

***** Includes $2.02 million Federal R&D Tax Incentive, received in October.

In the milieu of listed biotechs it's all too easy to become subsumed by either the science of the underlying pill or potion, or financial angles such as cash burn and the size of the addressable market.

The human sufferers of the ailment question are often lost in the dialogue, so it was refreshing to see upbeat idiopathic pulmonary fibrosis (IPF) sufferer Bill Van Nierop address Adalta's investor update in Melbourne last week.

Mr Van Nierop contracted the lung disease in 2015, but he's not taking the ailment lying down. So much so that last September he completed a 2,200-kilometre kayak ride down the Murray River to raise awareness of the condition.

He says former AFL footballer Neale Daniher has done a fine job raising awareness for motor neuron disease, which afflicts about 2,000 Australians. In contrast, about 10,000 of us have IPF, but it lacks a high-profile champion.

"Having lung disease in Australia is a pretty lonely place these days," he told an Adalta investor forum in Melbourne.

Dr Glen Westall, a respiratory clinician at Melbourne's Alfred Hospital described IPF as an unfair condition.

"It comes out of the blue in your mid 60s and damages the lungs rapidly," he told the forum. "The outlook is far worse than lung cancer."

"Idiopathic" means the cause of the disease is unknown, but there is some link to smoking and exposure to irritants such as dust, coal and silica.

(Ad)-altering the fibrosis treatment landscape

While Mr Van Nierop was more likely to grapple a rogue Murray Cod than a shark on his expedition, the predators of the ocean are never far from mind when it comes to Adalta developing its proteins, dubbed i-bodies.

That's because Adalta's lead candidate AD-214 mimics the cell characteristics of sharks, which are excellent role models given they are hardy creatures indeed.

About one-half the size of normal human antibodies, the AD-214 molecules are engineered with two loops that mimic the shape of shark antibodies.

The loops are twice the length of human antibodies, and can access nooks and crannies to latch on to drug targets that evade normal monoclonal antibodies.

The core mechanism of action is that the compound binds to the protein CXCR4, which sounds like a Mazda model, but is a receptor over-expressed in the unhealthy fibrotic tissue.

The idea is that AD-214 binds to the lung tissue and blocks the migration of cells implicated in fibrosis, without impacting the healthy cells.

"Our i-body will bind to the disease target and have an effect," Ms Cobb says. "We have seen both anti fibrotic and anti-inflammatory effects in a number of different animal models."

These include lung, liver, skin and kidney models.

(Oh, if you really need to know, the “i” stands for intermediate because the antibody selected came from the intermediate group of four groups of immunoglobulin or immunoglobulin-like domains.)

Adalta is aiming AD-214 at IPF but it is also a potential treatment for other fibrotic ailments such as wet aged-related macular degeneration (wet AMD) and non-alcoholic steatohepatitis (NASH) - anything fibrotic for which current treatments are sub-optimal and there’s a high unmet medical need.

The in-vitro (test tube) and in-vivo (mice) studies were enough to convince the US Food and Drug Administration to grant orphan drug indication status in January 2017, which could lead to fast-track approval if the protein is developed further.

Adalta was spun-off from Latrobe University and the Commonwealth Scientific and Industrial Research Organisation and listed on the ASX in August 2016, raising $10 million at 25 cents apiece.

News from the production line

While Adalta has been around for a while now, we stress that AD-214 is still in early development. After positive pre-clinical trials, the company’s attention has focused on manufacturing enough of the magic protein at a consistent quality to further clinical work.

It’s called ‘the boring but important’ bit and with a $6 million to $7 million manufacturing budget, it’s also the ‘expensive’ bit.

In October, Adalta reported manufacturing yields were in line with expectations, at just over one gram a litre. In January the company reported a yield of 3g/litre.

As with the Iphone X over the Iphone 7, AD-214 is a souped up version of AD-114, the key difference being improved half-life (the time the drug is active in the body).

The manufacturing work has been done in conjunction with the US contract pharma manufacturer KBI and the cell-line specialist Selexis SA.

News from the clinic

To date, Adalta claims validation via a number of non-human models and also testing on diseased human tissue.

In this respect, Dr Westall comes in handy: Melbourne’s Alfred Hospital performs about 100 lung transplants a year and given the old ones are thrown in the bin, there’s plenty of sample tissue to play with.

With the manufacturing down pat, Adalta intends primate toxicity trials in July, with a phase I clinical study slated for January next year.

Using healthy volunteers, the trial will assess pharmacokinetics and change in biomarkers via single ascending and multiple ascending doses. A phase Ib trial might also ensure.

“We are mapping out with clinicians what a trial might look like,” Ms Cobb says.

Adalta’s work last February was aired in Scientific Reports, an open-access journal from the publishers from Nature, in a report catchily titled ‘Anti-fibrotic effects of CXCR4-targeting i-body AD-114 in preclinical models of pulmonary fibrosis’.

Partnering is the endgame

Not surprisingly, Adalta intends to pursue advanced trials via a partnership. Ms Cobb is heartened that, unlike with most other therapies, pharma companies have picked up fibrosis treatments at an earlier stage.

“All of the IPF deals since 2011 have happened around the end of phase I, with an average up-front payment of $US100 million and $US300 million to $US400 million of milestone payments,” she says.

Last September, United Therapeutics acquired Samumed for $10 million, plus $340 million of potential milestones, for the US alone.

In phase I testing, Samumed’s SMO4646 is being developed as potential IPF treatment. The mechanism of action is to reduce the activity of genes associated with fibrosis.

In September 2015, Roche acquired Adheron Therapeutics and its phase I IPF candidate SDP-51 for $US105 million upfront, plus $US474 million of milestones.

Finances and performance

Adalta reported a December quarter cash balance of $5.36 million, with expected current quarter outflows of $3.27 million.

The company raised $4.73 million in a share placement and share purchase plan in August last year.

But Ms Cobb says given the company’s forecast current quarter cash burn of more than $3 million, “we will need to raise money and the board is looking at various options”.

Adalta shares have traded between a record high of 39 cents in March 2018 and a nadir of 17 cents in December 2016.

Adalta enjoys the benefit of a stable and supportive register, underpinned by 48 percent holder Yuuwa Capital (a Perth based boutique fundie) and Platinum Asset Management with a further 9.6 percent. The register also features biotech doyen Leon Serry and Latrobe Uni for old time’s sake.

The board is also well credentialed: Dr Chiplin was head of Arana Therapeutics, sold to Cephalon (now Teva) for $US200 million. Chairman Paul MacLeman headed Genetic Technologies, Hatchtech and IDT Australia, while Dr Robert Peach founded Receptos Inc (sold to Celgene Corp for $US7.8 billion).

Dr Boreham's diagnosis:

The reality for Adalta is that IPF affects about 300,000 people globally, with half of them likely to die within two to three years.

The existing treatments - Boehringer Ingelheim's nintedanib and Roche's pirfenidone - are regarded as ineffective for many patients, who are prone to nasty side effects such as severe diarrhoea and nausea.

But they're still $1 billion-plus drugs.

The markets for NASH and wet AMD are estimated at $US1.6 billion and $US8 billion.

In addition, Adalta holds a broader 'library' of i-body patents that can be used to identify new potential therapies.

Here's hoping that Adalta's eminent crew have oodles of patience, as well as talent: two years ago, Ms Cobb hinted at "benchmark deals" to secure partnership funding but we are still waiting.

Given the IPF-related acquisition activity, there's always the potential for an earlier than expected conclusion to the elongated Adalta story. As with those creatures of the deep, you never know when a predator will strike.

(Cue Jaws theme)

Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. He is phobic about sharks, but only the variety found in boardrooms, brokerages and investment banks.