Biotech Daily

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Daily news on ASX-listed biotechnology companies

Dr Boreham's Crucible: Dimerix

By TIM BOREHAM

ASX code: DXB

Share price: 44.5 cents

Shares on issue: 197,749,297

Market cap: $88.0 million

Chief executive officer: Dr Nina Webster

Board: Dr James Williams (chairman), Dr Webster, Hugh Alsop, Dr Sonia Poli

Financials (three months to June 30, 2020): revenue nil, cash burn $1.25 million, cash balance $7.8 million, quarters of available funding 6.2

Identifiable major holders: Peter Meurs 13%, Bavaria Bay Pty Ltd 4%, Yodambao Pty Ltd 3%.

Collective memo to biotech chiefs: bring out your good news now because investors are all-ears.

Having almost doubled after being linked to a global Covid-19 trial program in June, Dimerix shares this week vaulted as much as 42 percent after the company released top-line results from one of its two trials related to kidney disease.

The programs share the common trait of tackling fibrosis, or scarring, of the kidneys or lungs.

In laychap's terms, the phase IIa study showed Dimerix's lead molecule DMX-200 to be safe in terms of treating the rare disease focal segmental glomerulosclerosis (FSGS).

Being safe is always nice, but the study also showed a reduction in a key biomarker called proteinuria, which is excess protein in one's pee (also known as frothy urine).

Dimerix investors are now waiting eagerly for the pending results of a large trial pertaining to diabetic kidney disease, which like FSGS, has been granted orphan indication by US and European regulators.

"This is clearly very exciting news for our company," says chief executive Dr Nina Webster.

The Covid-19 stuff - which relates to acute respiratory distress syndrome (Ards) - adds further intrigue to the Dimerix story.

Dimerix through the ages

Dimerix was founded in 2004 by Dr James Williams and former Macquarie Group adviser Liddy McCall, based on technology developed at the University of Western Australia. The Williams-McCall tag team co-founded Tessitura Pty Ltd and then biotech investor Yuuwa Capital.

Dimerix Bioscience was acquired in July 2015 by the ASX-listed Sun Biomedical, which has dabbled in ventures ranging from illicit drug testing, heart valve devices and asthma diagnostics.

Sun Biomedical changed its name to Dimerix Limited in November 2015. Patent lawyer and scientist Kathy Harrison was appointed inaugural CEO in August 2017, having been the company's sole employee when she joined in 2014.

In August 2018, the company appointed Dr Webster as CEO, with Ms Harrison moving to the chief operating officer role (she left the building in November that year).

Dr Webster had held senior positions at drug companies including Wyeth Pharmaceuticals (now Pfizer), Acrux and Immuron.

Meeting unmet needs

DMX-200, also known as propagermanium (and we've never met an improper germanium) works - or is thought to work-– by reducing cell inflammation. It does this by blocking the signalling process by which inflammatory cells move to the kidney, thus preventing fibrosis or scarring.

Known as a chemokine receptor (CCR2) antagonist, DMX-200 is being tested as an adjunct therapy to patients taking the current standard of care, the blood pressure drug irbesartan (as a so-called angiotensin receptor blocker).

FSGS attacks the kidney's filtering units - glomeruli - causing irreversible scarring and permanent kidney damage (and often failure).

The condition is rare, affecting about 210,000 people (including kids as young as two years). In the US about 80,000 are afflicted, with around 5,400 new cases a year.

Furthermore, 40 percent of those lucky enough to get a kidney transplant have a recurrence of the disease for unknown reasons.

"There's been no real innovation in the kidney space for 18 years," Dr Webster says. "That's because trials have been extremely long, as the endpoint has been end stage renal failure which could take years."

Crucially, the US Food and Drug Administration has accepted a surrogate endpoint of proteinuria, as a measure of the rate of kidney disease progression.

"That means the trials can be months instead of years," Dr Webster says.

Leaping into Action in the clinic.

The phase IIa trial, dubbed Action, showed that DMX-200 was safe and well tolerated - and also reduced proteinuria levels.

The trial enrolled 10 patients across Australian sites. Ultimately seven patients met the criteria, with three omitted for various reasons (one of them went on holiday and forgot to take their meds).

A crossover protocol meant each patient was treated with DMX-200 and also with the placebo for a 16-week period, with a six-week cleansing break in between.

"[The study] was not powered for statistical significance but it was designed to derive maximum insight from a small number of patients,'' says nephrologist and trial investigator Dr Muh Geot Wong of Sydney's Royal North Shore Hospital.

The phase IIa study met the primary and secondary endpoints of being safe and well tolerated.

The double-blind, randomized, placebo-controlled, cross-over design trial showed an average 29 percent reduction in proteinuria, compared to placebo.

Six of seven patients (86 percent) had reduced proteinuria relative to placebo, with two of them (29 percent) achieving a 40 percent or more reduction.

The patients had had a stable dose of the standard of care, irbesartan, with the trial protocol compensating for any proteinuria reduction resulting from this standard-of-care treatment.

While the study was short and petite, Dr Webster says it was designed to derive maximum insight from a small number of patients while retaining the ability for a flexible number of patients to complete the study.

“As such, the study delivered encouraging data which supports further development of DMX-200 in FSGS,” she says.

Under the local Therapeutic Goods Administration’s special access scheme, patients from both studies will continue to receive treatment.

Meanwhile, the phase II diabetic kidney disease trial has enrolled 46 patients, with 40 required to finish in order to statistically adequate. While it shares orphan status with FSGS, diabetic kidney disease is much more prevalent in the western world.

“About 40 percent of diabetes sufferers have kidney disease and they might not even know it,” Dr Webster says.

Because the trial sites have been in Australia, the company has largely avoided Covid-19 related delays.

A recap on REMAP-CAP

Dimerix’s share price-shifting Covid-19 news related to DMX-200 being selected for use in a mega global study on acute respiratory distress syndrome (Ards).

The study is called Randomized Embedded Multifactorial Adaptive Platform, known to friends as “Remap-Cap”.

An inflammatory condition afflicting the lungs, Ards is the usual cause of coronavirus casualties. Counter-intuitively, the inflammation is caused by the immune system over-reacting to the presence of the virus.

Ards, of course, is being targeted by the likes of Mesoblast and Cynata Therapeutics using different science.

With a target of recruiting 7,000 patients across 200 sites in 15 countries, Remap-Cap aims to prove up multiple drugs and nominate them for fast track regulatory approval and development. Remap-Cap is funded by a number of governments and is endorsed by the World Health Organisation.

Dr Webster says the Remap-Cap study uses “adaptive” design, which in effect means it is flexible in following the pandemic around geographies and regions.

The study, of course, will tilt funding to the most promising drug or drugs.

She says it's a moot point as to how long any drug would take to develop, but the short answer is much quicker than normal.

"Most territories are receptive to emerging use approval. As soon as there's an efficacy signal there is a fast pathway to clinical practice.

Here's back-up …

We should not forget Dimerix's secondary candidate DMX-700, which is pitched at chronic diseases such as chronic obstructive pulmonary disorder (COPD).

Dr Webster says while DMX-700 has a very different mechanism of action to DMX-200, "both are commercially attractive".

Synonymous with smoking, COPD has created a market for treatments valued at around $US14 billion ($A20 billion) a year.

Finances and performance

Following the Ards announcement, Dimerix in June wasted no time raising $5.8 million in a placement, at 36 cents a share (an 18 percent discount).

As of the end of the June quarter the company had $7.8 million in the bank - enough to cover the phase II trials.

"We will always continue to assess our capital needs to support our longer-term strategies," Dr Webster says.

These plans include a potential phase III kidney program, the preclinical work on DMX-700 and, of course, anything that evolves from the Ards program.

Over the last 12 months Dimerix shares have traded between 8.7 cents (September 10, 2019) and 47 cents (July 30, 2020).

Dr Boreham's diagnosis:

Should DMX-200 be developed as an Ards therapy, the upside is obvious.

The Remap-Cap tie-up involves Dimerix providing the drug for free, in return for the program funding the trial.

Given Dimerix has rights to the data, there's not much to lose in that the results will add insights into the kidney and other programs.

Dr Webster notes the average pandemic lasts 12 to 36 months, which implies that Dimerix might miss out this time around … or perhaps not.

In any event Ards is also prevalent in conditions such as pneumonia, so attractive markets continue to beckon.

"With Ards overall, 30 to 40 percent of patients will not come out of hospital," Dr Webster says. "It's a high mortality rate."

Dr Webster dubs Dimerix a "compelling proposition", given its programs are in multiple markets with high unmet needs.

Investor focus now turns to the results from the diabetic kidney disease trial, with the last patient dosed in July.

With top-line results due in four to six weeks, investors don't have to toss and turn for too long.

Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. The last time he looked he was the proud owner of two kidneys with no frothy urine.