



Biotech Daily

Friday June 14, 2024

Daily news on ASX-listed biotechnology companies

Dr Boreham's Crucible: Island Pharmaceuticals

By **TIM BOREHAM**

ASX code: ILA

Share price: 6.3 cents; **Shares on issue:** 114,536,544; **Market cap:** \$7.2 million

Financials (March quarter 2024) receipts nil, cash outflows \$1.17 million, cash of \$1.58 million (pre-rights offer that raised \$1.95 million before costs)

Chief executive officer: Dr David Foster

Board: Dr Paul MacLeman (executive chair), Dr Foster, Dr Anna Lavelle, Al Hansen, Dr David Brookes

Identifiable major shareholders: Dr William James Garner 19.26%, Jason Alan Carroll 17.46%, Albert Hansen/Kesa Partners 9.69%

Apologies for bringing up the V – virus – word in a pandemic-weary world, but the mosquito-borne dengue fever is running rampant and spreading to geographies hitherto unaffected.

“Dengue is the most common viral disease transmitted by mosquitoes that affects people,” the European Centre for Disease Prevention and Control reports.

“Every year, tens of millions of cases are reported, and it causes about 20,000 to 25,000 deaths with a higher impact on children.”

Brazil accounts for the majority of cases, but Peru is also having its worst outbreak in history while India and South East Asia are not immune.

“It’s shaping up as a really, really bad year,” says Island Therapeutics CEO Dr David Foster.

Island is on the job with a repurposed molecule, ISLA-101, which promises to be a treatment for the symptoms, or a vaccine-like prophylactic.

The mechanism of action of ISLA-101 is to prevent the spread of infectious cells by breaking down the interaction between the viral and host protein.

Developed as a cancer drug but never approved, ISLA-101 shows “excellent activity” against all four dengue strains.

ISLA-101 is also recognized as safe, having undergone no fewer than 45 cancer trials in Europe and elsewhere.

Island is undertaking a phase II study, in anticipation of a phase III program pitched at US Food and Drug Administration approval.

Dengue fever – more than an itch

Spread by the Dengue mosquito or Asian Tiger mosquito, dengue fever is found in more than 100 tropical and sub-tropical countries of Asia, Africa and South America.

Most sufferers are asymptomatic. The trouble is, there are four different strains – DENV-1 to DENV-4 - and a second occurrence can be much worse.

Typically lasting a week, symptoms include vomiting, diarrhoea, headaches, seizures, itching, “pleural effusion” and even “altered minds”.

Dengue fever can also be fatal, although that is rare.

“Dengue fever is the very definition of an unmet medical need,” the company says.

Factors, including climate change, mean that half the population is at risk, as the pestilence is spreading from tropical countries - typically poor ones - to locations such as Florida, Texas, northern Queensland and the Mediterranean.

University of Oxford and National Aeronautics and Space Administration (NASA) data cheerily suggests large swathes of Australia will be environmentally vulnerable by 2050 – all the way down to northern and central NSW.

When the multi-millionaire Byron Bay beautiful people are afflicted, we will never hear the end of it.

The company cites US dengue fever hospitalization costs of about \$US7,000 (\$10,600) per patient.

About Island

Island's sole raison d'être is to further ISLA-101, identified by Johnson & Johnson as a potential cancer treatment.

J&J donated the program – which had FDA investigational new drug (IND) status - to the US National Cancer Institute (NCI).

“We called the NCI and in effect they said you can have it,” Dr Foster says.

Meanwhile, Puerto Rico-based medical entrepreneur Dr William James Garner realized there was a growing problem with mosquito-borne viruses and stumbled on the work of Monash University biochemist Prof David Jans.

The company licenced what Dr Foster describes as Monash's “elegant biology”, with further work at the Uni elevating the molecule to pre-clinical status.

Rather than starting with a compound and looking for a disease - the norm for drug development - Prof Jans started with the disease and then screened potential drugs for the target.

Not to be confused with current Percheron Therapeutics CEO and former Kazia chief Dr James Garner, Dr William (Bill) Garner founded Invion in 2012 and was a former director of fellow drug re-purposer Race Oncology.

Island listed on April 16, 2021, having raised \$7.5 million at 25 cents apiece. Dr Garner remains a 26 percent shareholder.

Dr Paul MacLeman is well known in biotech circles as chair of Adalta and former CEO of Genetic Technologies and IDT Australia.

SAD, not MAD

In April this year, Island reported “highly positive” new data from its safety and tolerability study for ISLA-101. Covering 24 patients in a single ascending dose, the pharmacokinetics study showed the required levels of ISLA-101 concentration in the blood after a single dose.

“The drug was safe and well tolerated,” Dr Foster says. “We are achieving the blood concentrations we want to see.”

The company had been girding for the second phase II dengue trial, called Peach (as in Prophylactic Examination of an Antiviral in a dengue Challenge Model).

In a June 3 update, the company said while it had intended to take a multiple ascending dose (MAD) approach, new modelling data suggested a single ascending dose (SAD) approach would “achieve effective blood concentrations above those shown to be effective at arresting the dengue virus in prior pre-clinical studies.”

In another tweak, the company is expanding the trial from a pure prophylactic focus to a therapeutic arm, “substantially increasing the data we obtain from the study”. The downside is that the study can’t be called Peach any more.

Based in Syracuse, New York, the trial will enrol about 15 healthy volunteers and ‘challenge’ (infect) them with an attenuated strain of the dengue virus.

The North East of the US isn’t known as a dengue hot spot - and that’s quite deliberate because the study needs to avoid anyone who has had the disease (Florida would have been more problematic).

Military backing

Island has the benefit doing the trial at the Walter Reed National Military Medical Centre, in which 20 ‘volunteers’ received the virus.

Dr Foster says the army has been trying to develop a dengue vaccine, but the efforts were a “little too hot” in that the subjects became too sick.

“Preferring not to throw the data or the vaccine candidate away, they elected to use the product, and study the mild form of dengue virus in healthy volunteers,” Dr Foster says.

The data is, in effect, a control group for the Island trial, given the army looked at the effects of the virus without a drug.

Dr Foster says Island initially was looking at a prophylactic study, but to do a vaccine in the field it would require enrolling thousands of people.

“Our current protocol calls for around 15 people; it is a very tiny number because it is so well controlled and we have the army data for comparisons,” he says.

The company hopes to complete enrolments in early July and dose in August, with results by the end of the calendar year.

The FDA has indicated a phase III study likely would need to be in a dengue-endemic country such as Singapore, Malaysia or the Philippines or Brazil.

Finances and performance

In March this year, Island completed a rights raising that bought in \$1.95 million to fund the phase I analysis and the phase II trial.

The terms were two for every five shares held, exercisable at six cents each, with a one-for-one option also exercisable at six cents. If investors had exercised these options by today - June 14 - they will receive a ‘piggy-back’ option exercisable at - you guessed it – six cents with a March 2025 expiry.

In total, these oppies have the potential to raise a further \$3.9 million.

In December last year, Island borrowed \$386,000 against its Federal Research and Development Tax Incentive for the 2023-'24 year. With accumulated interest, the fully-drawn sum is \$405,352, to be repaid when Island banks the Incentive in October.

On May 8, the company said that \$US625,000 of a \$US1.3 million US Congress grant could be reallocated from the Research Foundation of State University of New York to fund the trial costs directly.

The grant was to be used by the Foundation for follow-up lab testing and data analysis of the trial results.

Island is also eyeing an FDA Priority Review Voucher (PRV), under the agency's tropical diseases program.

A PRV means that if the drug is approved, the company has fast-track approval for a second drug. These 'Willy Wonka' tickets are usually on-sold to other drug developers, with recent sales averaging \$US110 million.

Over the last 12 months Island shares have traded between 10 cents in early January and 5.5 cents in early May this year.

The shares peaked at 43 cents on April 30 2021, shortly after listing.

Sizin' the rivals

There is only a vaccine for secondary dengue infections - Sanofi Pasteur's Dengvaxia - but the limitations are almost comical.

The vaccine is never prescribed for primary infection and should never be used by those without the disease - or for anyone aged under nine or over 45.

It also can't be used as a prophylactic for short stay visits in dengue-endemic areas, "as the risks most likely outweigh potential benefits".

Takeda has a vaccine approved in some countries including Brazil and Europe, but for unclear reasons it withdrew its US submission.

In terms of small molecules, Johnson & Johnson has a treatment in phase II stage, with a different mechanism of action to ISLA-101.

Novartis also appears to be developing one, but Dr Foster is unfazed by the potential competition.

"Dengue fever is such a big problem," he says. "As with covid we need both vaccines and therapeutics to treat people at different stages."

Dr Boreham's diagnosis:

No company is an Island when it comes to drug repurposing, with others in the game including the ASX-listed Race Oncology (cancer), Paradigm Biopharmaceuticals (dodgy knees), Pharmaust (motor neuron disease) and LTR Pharma (erectile dysfunction).

The benefits are a proven safety profile and thus a faster route to market.

While dengue fever presents a vast unmet need, Island has chosen an indication conducive to small and short trials because the life cycle of the virus is only two weeks.

While none of this guarantee's success, Island looks well-funded to the envisaged phase III stage.

"The next nine months will be incredible exciting and ... we should have a lot of inflexion points over the next 12 months," Dr Foster says.

Sadly, the excitement is yet to be reflected in Island's share price. When we last covered the stock in May 2021 Island was valued at around \$31 million compared with about \$7 million now.

Mind you, much of that is beyond management's control.

As the rights prospectus opines: "The stock market, particularly for biotechs, has experienced extreme price and volume fluctuations that have been unrelated or disproportionate to the operating performance of companies."

Now tell us something we didn't know ...

Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. He has never been to Byron Bay but secretly wants to cavort with the beautiful people.