



# Biotech Daily

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*Daily news on ASX-listed biotechnology companies*

## Dr Boreham's Crucible: Starpharma

By **TIM BOREHAM**

**ASX code:** SPL

**Share price:** 74.5 cents; **Shares on issue:** 407,444,414; **Market cap:** \$303.5 million

**Chief executive officer:** Dr Jacinth (Jackie) Fairley

**Board:** Rob Thomas (chairman), Dr Fairley, Richard Hazleton, Peter Turvey, Zita Peach, David McIntyre, Lynda Cheng, Dr Jeff Davies

**Financials (March quarter 2022):** receipts \$1.85 million, positive cash flow \$2.97 million, cash balance \$54.8 million, debt \$4.6 million

**Major shareholders:** Allan Gray 10%, Allianz SE 9%, M+G Investment Funds 7.8%, FIL Ltd (Fidelity) 7.3%, UIL (Utilico Emerging Markets) 5.1%.

When is a medicine actually a medical device?

The question has been more than academic for Starpharma, which ran into a spot of bother with Australia's Therapeutic Goods Administration (TGA) as to what category its anti-viral nasal spray Viraleze should be.

The TGA argued the new product was a medicine, which meant it would be subject to more arduous approval hurdles.

But the company argued the spray had been accepted as a device in more than 30 countries ... and the medical gatekeepers of more than 30 countries can't be wrong.

“The TGA would welcome a new submission for this product as a medicine with the appropriate clinical evidence,” a TGA spokeswoman told Biotech Daily in March this year.

But it seems like even stony-hearted regulators can soften their stance. In the end, the TGA acquiesced to the device route although it has not yet approved the product.

“They have absolutely agreed,” says Starpharma chief Dr Jackie Fairley, with an emphasis on the ‘absolutely’. “The mode of action of our molecule is a physical rather than pharmacological effect, which means it is registered as a device.”

Starpharma recently announced Viraleze respectively was 95 percent and 99.7 percent effective against influenza A and B, which has re-emerged with a vengeance post-Covid.

If anyone know how to zap the remaining 0.3 percent or so of bugs, do write in ...

Earlier, Viraleze was claimed to be effective against - you guessed it - Sars-Cov-2, including the Omicron and Delta varieties.

Viraleze is based on the same tech as its original Vivagel, which is used to treat the odiferous disorder bacterial vaginosis. It is also used as a coating on condoms for that little bit of added protection (against HIV, herpes and human papillomavirus).

But for all the headlines about Viraleze and Vivagel, Starpharma’s longer term fortunes will be steered by its oncology programs in partnership with the likes of Astrazeneca, Merck & Co Inc and Genentech.

Starpharma’s sprawling oncology program revolves around its dendrimer enhanced product (DEP) platform (more below).

## **Star(pharma) gazing**

Starpharma listed in September 2000 as a Keating-era pooled development fund (it later shed this structure).

Formerly a practicing vet, Dr Fairley assumed the Starpharma top job in July 2006, having been chief operating officer for a year. Previously she held senior roles at CSL and Faulding (now Mayne Pharma).

Starpharma sold its agricultural chemical division to Canadian agri-giant Agrium in 2017 for \$35 million, in favour of focusing on two-legged beings.

On the condom side, Starpharma used to sell to the ASX-listed Ansell, before Ansell sold its ‘sexual health’ arm to Chinese interests in 2016. But Starpharma still has the market covered with Japan’s Okamoto Industries.

Starpharma’s HQ, by the way is in inner Melbourne Abbotsford, with its digs overlooking Carlton and United Breweries.

## **Forget about Amber, have you Heard about this DEP?**

Starpharma's oncology program revolves around its dendrimer enhanced product (DEP) platform. Dendrimers are nanoscale polymers that are touted to result in better drug targeting and pharmaco-kinetics and reduced side effects (such as bone marrow toxicity and hair loss).

The Astrazeneca program involves the drug giant funding two (and possibly more) programs. First off the rank is AZD-0466, a reformulation of a "best in class" Astrazeneca candidate for blood cancers such as leukaemia and lymphoma.

The molecule targets the Bcl2 and Bcl/xL inhibitor (proteins that regulate cell death).

Last year Astrazeneca expanded a trial of "haematological malignancies" to a global, multi-centre, phase I/II effort which now covers non-Hodgkin's lymphoma, one of top 10 most common cancers.

Dr Fairley says the AZD-0466 program is "going great guns" and is clearly the most advanced.

"Astrazeneca really supercharged that program with a decision to expand and expedite the development of that product," Dr Fairley says.

"They recently advised they will expand into some other cancer types which are not yet in the public domain."

Starpharma has also inked partnerships with Merck & Co and Genentech, by which the company is free-carried to drug approval, meaning Starpharma doesn't need to fund it. These programs are at a pre-clinical stage.

While the details have not been aired, the Merck program involves the new field of antibody drug conjugates (ADCs)

"Our [dendrimer] platform is a carrier, which as a platform technology is very versatile," Dr Fairley says. "You can use it for drugs, antibodies, proteins or things like radio isotopes, a clinical area that has gained a lot of momentum over the last few years."

## **Off its own bat ...**

Meanwhile, Starpharma is pursuing its own DEP programs that combine the dendrimer with three existing drugs: docetaxel (breast, head and gastric cancers), cabazitaxel (prostate cancer and others) and irinotecan (colorectal cancer).

The most advanced program, DEP-docetaxel enhances Sanofi-Aventis's Taxotere. Patients are being recruited into a phase II docetaxel trial, which targets non-small cell lung cancer and prostate cancer.

The cabazitaxel program adds DEP to Jevtana, a Sanofi-Aventis drug. A phase II trial recruited 61 patients and showed “encouraging efficacy signals in prostate, ovarian and gastro-oesophageal cancers.”

The irinotecan program tricks up Pfizer’s drug Camptosar.

Similarly, the phase II program showed efficacy in multiple tumor types including colorectal, breast, ovarian, pancreatic, lung and oesophageal.

### **No sneeze with Viraleze**

An over-the-counter treatment, Viraleze is intended to reduce viral loads in the nose either as a preventative, or after the onset of the ’flu.

Dr Fairley notes that SPL-7013 was developed as an antiviral, before being found to be effective against bacterial vaginosis.

As the pandemic emerged, the company was “immediately curious” to check out the efficacy of the compound and the product emerged from there.

“The primary concept is that it acts as a barrier which traps and inactivates viruses,” Dr Fairley says.

“You will spray it in nose before exposure and then ... the viral particles don’t enter through the usual nasal receptors.

“If you are infected and you haven’t used it previously, it can be used to reduce the viral load in your nose.”

While Viraleze is registered in about 30 countries, it is sold online to 50 countries (many markets have personal use provisions for unregistered products).

Viraleze graces the shelves of chemists in Italy, Vietnam and is coming back into Britain via the chemist chain Lloyds (the product was pulled from the shelves owing to regulatory concerns about how the product was being promoted).

Viraleze competes against products such as Vicks First defence Mundicare Cold Defense Nasal Spray and Flo Travel Nasal Spray.

Dr Fairley says while Australia is only one percent of the market, it’s an important one for the company because many of its shareholders are interested in accessing the product.

“We get 20 emails a week [from potential users],” she says.

“Typically, they’re going on a trip or a cruise, or they are just worried about going to the supermarket.”

Starpharma also has a compact with China's Tianjin Chase Sun Pharmaceutical Co, in view of a nanoparticle DEP formulation to improve Chase Sun's anti-infective drugs.

## **Oops!**

In July last year the Therapeutic Goods fined Starpharma \$93,240 for alleged illegal advertising of a nasal spray that is not approved for use in Australia.

The regulator alleged that the company promoted Viraleze on two of its websites and a Youtube channel, despite the product not being registered on the Australian Register of Therapeutic Goods (ARTG).

The TGA alleged the company made "restricted representations" in promoting Viraleze as an anti-viral spray that stops Sars-Cov-2.

"The use of restricted representations in advertisements for therapeutic goods is unlawful without the prior authorization of the TGA," the TGA chided.

"No relevant authorization has been granted for the advertised claims in this case."

Starpharma responded by saying it had immediately removed the offending material from the sites in questions and "takes its responsibilities and obligations under compliance with the TGA very seriously."

## **Can't be too careful**

Vivagel is deployed as the bacterial vaginosis treatment and in a condom line, known as Absolute DUAL PROTECTION (their capitals, not ours).

Okamoto has also introduced a brand called Pure Marguerite, pitched at the youth demographic (especially women, who probably buy more frangers than blokes).

Sold under the Fleurstat brand, Vivagel was launched as a bacterial vaginosis in the local market in April 2019 and launches in Europe and Britain ensued.

The product is approved and licenced in 160 countries.

Vivagel is an alternative to the out-of-favour, prescription-only treatments for bacterial; vaginosis.

The company claims the over-the-counter product both treats and prevents the odiferous bacterial condition.

In Europe, Vivagel is distributed by Mundipharma under the moniker Betadine BV and is sold in Britain under the Betafem moniker.

In the US, Starpharma struck a deal with women's health specialist ITF Pharma, in 2018, involving \$176 million of milestones, plus double-digit royalties.

The trouble is the FDA is yet to approve the treatment, having demanded confirmatory clinical data. So, half the global market (125 million women) remains off limits.

## **Finances and performance**

Starpharma chalked up customer receipts of \$1.84 million in the March 2021 quarter, mainly pertaining to Viraleze (the company does not provide a specific breakdown).

This compares with revenue for the six months to December 31, 2021 of \$1.9 million and \$2.1 million of revenue for the full year to June 30, 2021.

So, sales aren't exactly overwhelming but they're improving.

The company also had the benefit of cash - \$55 million to be exact - at a time when fund raising has become problematic across the sector.

Because the company is free-carried across the partnered oncology programs, it only has to spend money on its own oncology ventures.

The Astrazeneca programs involves \$US124 million of milestones, about half of which are "relatively near" and payable to Starpharma before a drug is approved.

For example, \$US7 million is payable when the dosage is determined for the trial post the initial dose escalation phase.

With a \$7.7 million research and development tax incentive refund due, the company is confident of not having to raise capital.

Starpharma shares have eroded from the \$1.70 level of 12 months ago their current historic lows around 73 cents, still well above the 17 cents in January 2009.

The five-year chart shows a high of \$2.36 in February 2021.

## **Dr Boreham's diagnosis:**

Despite the share erosion, Starpharma still bears a chunky \$300 million valuation - less the \$50 million net cash - but that looks reasonable considering Astrazeneca is likely to spend \$US100 million on the partnered trials.

Above anything else, these efforts will determine whether Starpharma is a modest venture with a couple of over-the-counter remedies, or the custodian of one or more blockbuster drugs.

Dr Fairley says the Viraleze revenues could be “material”, while the bacterial vaginosis market is estimated to be worth \$US750 million a year.

“Viraleze will be a contributor, but the size of the prize with oncology is much bigger.”

Dr Fairley says that while the cancer trial outcomes are perceived as binary - the drug will work or it won't - history shows that a drug that failed one indication could well be effective for another.

She says Starpharma's eroding share price is not logical, given the company's advanced status.

“But there are quite a few [biotech] CEOs in the same position, almost without exception.”

Indeed.

***Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. But Johnny Depp doesn't have an acting degree - he was a high school drop-out - and that hasn't harmed his career.***