



# Biotech Daily

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*Daily news on ASX-listed biotechnology companies*

## Dr Boreham's Crucible: Opthea

By TIM BOREHAM

**ASX code:** OPT

**Market cap:** \$235 million\*; **Share price:** \$1.175; **Shares on issue:** 200,045,175\*

**CEO:** Dr Megan Baldwin

**Board:** Geoff Kempler (chairman), Dr Megan Baldwin, Michael Sistenich

**Financials\*\* (2016-'17 first half):** revenue \$179,731 (up 65%), loss \$2.297 million (up 32%), cash \$13.14 million (down 9%)

**Shareholders\*\*:** Biotech Value Fund 18%, Baker Brothers NY 9%, Packer & Co 8.5% (but ceased being substantial holder this month).

\* Including this week's \$42 million institutional raising, but not the \$3 million retail offer

\*\* Not including this week's capital raise

When the eye diseases house entered its trading halt last Thursday, management hinted at positive clinical results by also flagging a "potential" capital raising.

As it happened, the hint understated the outstanding success of the phase I/IIa results for Opthea's ophthalmic disease therapy, OPT-302.

We don't use the superlative "outstanding" lightly because that's what the market - the ultimate arbiter - thought of the outcome.

Seizing the day, the company passed around the fedora for around \$45 million, \$42 million by way of an institutional placement and entitlement offer and an estimated \$3 million through a retail raising.

The offer was priced at 93 cents, a 15 percent premium to the closing price ahead of last Thursday's trading halt.

Resuming trade on Wednesday this week, the shares bounded 34 percent (to \$1.09) - an unusual reaction to an equity raising.

So what's all the fuss about?

A so-called vascular endothelial growth factor (VEGF) receptor, OPT-302 binds on to the VEGF proteins that cause wet age-related macular degeneration (wet AMD).

A leading cause of blindness globally, wet AMD is loss of vision caused by degeneration of the central part of the retina (the macula).

This is caused by abnormal growth of blood vessels and leakage of fluid and protein from the vessels.

OPT-302 is a soluble form of the receptor VEGFR-3, which inhibits VEGF C and D.

The two current drugs Eylea and Lucentis tackle the troublesome VEGF-A, but not the variants VEGF-C and VEGF-D.

"Our plan is to address the unmet medical need that remains for wet AMD patients," Opthea says.

"Approximately half of the people receiving the existing therapies do not experience a significant gain in vision and/or have persistent fluid in the back of the eye."

But if OPT-302 is used in combination with Lucentis, the results look to be much more effective.

### **Trial and (little) error:**

The trial, across 14 US sites, enrolled 51 patients (49 of which were assessable as two died for unrelated reasons).

These guinea pigs were either difficult to treat, or had not been treated in the past (naïve).

Of the patients, 37 were treated with the OPT-302-Lucentis combo, with 12 treated with OPT-302 alone.

Overall, 44 patients gained or maintained vision after 12 weeks.

That's a pass rate of 90 percent, which in Dr Boreham's schooldays was enough for an elephant stamp.

Of the 19 previously treated patients, all of them gained or maintained vision.

That's dux of the biotech class stuff.

Among the 12 monotherapy patients, nine gained or maintained vision.

That's 75 percent, or enough to be spared the cane for a week or so.

Sadly, five patients (10%) recorded further loss of vision.

They're the students told by the posh school their educational outcomes would be enhanced in a more practical learning environment (the local tech).

The improvement was measured by "visual acuity outcomes", which in Malcolm Turnbull's pub test terms meant the patients could read smaller letters on an eye chart than previously.

### **Coming up:**

According to Opthea, the dosh raised will fund three more studies and fund the company until mid-2020.

The biggest by far is a \$35 million randomised 350-patient phase IIb wet AMD study, comparing the Lucentis plus OPT-302 combo with Lucentis alone.

Another study with yet to be defined parameters will enrol only previously-treated wet AMD patients.

Surprisingly, Opthea is also launching a 90-patient study on the use of OPT-302 for diabetic macular oedema (DME), a condition that also involved retinal leakage.

Baldwin says DME affects a younger, working age demographic and is about half to two-thirds the size of the wet AMD market.

### **A chequered history:**

Did you know that Opthea is the renamed iteration of Circadian Technologies, which is the oldest ASX-listed biotech, founded by bio-doyen Leon Serry AO?

It has been described as “an incubator” for companies including the Victoria State-founded Amrad, later renamed Zenyth and sold to CSL, chief scientist Dr Alan Finkel’s Axon, which was sold to California’s Molecular Devices for \$140 million in 2004, along with investments in Antisense, Avexa, Metabolic, Optiscan and Syngene.

Save that one for the school quiz night.

Circadian dabbled in a number of applications including melatonin for jet-lag (hence the name), drugs for Alzheimer’s and cancer and cancer diagnostics before deciding to focus on eye ailments.

After a board cleanout in 2015 that saw the departure of three long-serving directors, Opthea boasts a tight three-person board which is sure to save costs and ensure debate is wrapped up by recess time.

Opthea is a well-owned biotech: before the raising the top 10 holders accounted for 69 percent of the register while institutions owned 79 percent of the stock.

### **Dr Boreham’s diagnosis:**

As a guide to the size of the prize, Lucentis and Eylea turn over \$US8.5 billion globally.

The cancer drug Avastin, used as an off-label cheaper alternative, accounts for even more than that.

There’s a healthy precedent in that Psivida (ASX: PVA) successfully licenced its delivery treatment for DME and posterior uveitis (nothing to do with bottoms but an inflammatory eye disease and also a leading cause of blindness).

Top-line results from the wet AMD trial are due in 2010 and the DME results by 2018, which is a nanosecond in the context of the planet’s evolution.

While it’s nice to see Opthea with a sharp focus on the one drug, there’s little for the company to fall back on if OPT-302 fails to shine.

We’ll “see”.

***Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. But he is a true visionary when he can find his glasses, which is not often.***