IN brief

Bacterial shield for seeds

Agribusiness giant Syngenta will pay up to $113 million to acquire Pasteuria Bioscience, a small biotech with a novel natural process to control nematode pests in plants. Under the terms of the agreement, the Basel-based Syngenta giant will acquire Pasteuria for $86 million, with additional deferred payments of up to $27 million. The deal is expected to close in the fourth quarter this year. The 21-employee company has worked out of the University of Florida Sid Martin Biotechnology Incubator in Alachua since 2003, and began an exclusive partnership with Syngenta in 2011. Its products are based on the cultivation of *Pasteuria*, a naturally occurring genus of soil bacteria. The organisms are lethal parasites of nematodes with spores that attach and infect the nematode body, reducing its reproductive rate and killing it. *Pasteuria*'s antinematode properties have been known for many years, but few researchers have been able to grow the bacteria in the laboratory. "It's a very difficult organism to work with," says Charles Opperman, a nematologist at North Carolina State University in Raleigh. Most groups have only been able to culture *Pasteuria* on its host, which limits production of the bacteria. Pasteuria Bioscience came up with a proprietary way to grow the bacteria outside its host and in large quantities. "No one else has been able to culture *Pasteuria in vitro* like they have," says Opperman. With chemical controls for nematodes being restricted or pulled off the market in recent years, for fear of environmental damage, the company's biological product should arrive at a good time. Syngenta expects to launch the first product, a seed treatment against cyst nematodes on soybeans, in the US in 2014, says Paul Minehart, a spokesperson for Syngenta. *Emily Waltz*

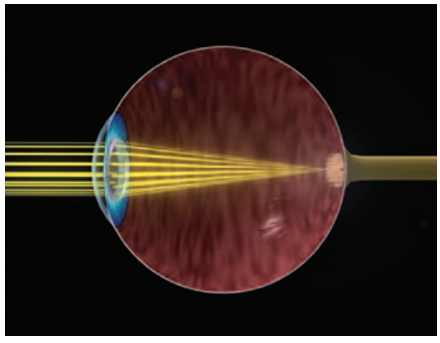
IN their words

"Most of the time, waiting for some better, larger, more definitive evidence is a good idea. No need to rush." John Ioannidis, of Stanford's Prevention Research Center in California, on the phenomenon known as 'the decline effect', whereby 90% of headline-grabbing studies later flop. (*US News Health*, 23 October 2012)

"Largely because of the Avandia fallout, getting a new drug through the FDA has become about as pleasant as having root canal work with no anesthetic." David Kliff, editor of the *Diabetic Investor*, referencing the problems with heart conditions that surfaced with Avandia years after it was approved for type 2 diabetes. (*Pharmalot*, 2 November, 2012)

Belgian biotech's clot-buster approved for aging eyes

ThromboGenics's recombinant protein drug Jetrea (ocriplasmin) received US Food and Drug Administration (FDA) approval on October 18 for treating vitreous macular adhesion (VMA). The accompanying label imposes no restrictions and positions the Leuven, Belgium–based biotech firm for a launch in the US market in January. Around the same time, it expects to receive an opinion from the European Medicines Agency's Committee on Human Medicinal Products (CHMP). A positive result would pave the way for a European launch in March and trigger a €90 ($115) million payment from Alcon, the ophthalmology division of Basel-based Novartis. Alcon gained rights to the product outside the US last March, in a deal worth up to €375 ($479) million in upfront and milestone payments.



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Jetrea is the first drug approved to treat vitreous macular adhesion.

Novartis is now an obvious bidder for ThromboGenics, which is currently valued at about €1.3 ($1.6) billion. A combination of Alcon's third-quarter sales decline and the high price Novartis paid for the company—around $51 billion in successive tranches—has put pressure on the Swiss pharmaceutical firm to ensure its massive investment is a success. "For Alcon, it's a no-brainer," one source, who wished to remain anonymous, says. "They have more to lose by not having the US rights."

The more bullish analyst forecasts on Jetrea's potential put it in or around blockbuster territory. Jefferies, of New York, has forecast $875 million in sales, and KBC Securities, of Brussels, has forecast over €750 ($957) million in VMA alone, a condition that affects around 250,000 people. But it also has potential in additional eye indications, such as retinal venous occlusion, age-related macular degeneration (as an adjuvant therapy) and in a large fraction of diabetic macular edema (DME) patients. "Fifty percent of those people have VMA. Now you're talking about millions of people," says KBC analyst Jan De Kerpel. The existing label allows its use in this population, but he says the company would probably obtain additional clinical evidence to support any marketing efforts here.

Jetrea, the first drug to gain approval for treating VMA, is a truncated form of two-chain human microplasmin, comprising just ~230 amino acids of a catalytic domain. As a trypsin-like serine protease, it degrades various proteins found in blood clots, including fibrin, thrombospondin, laminin, von Willebrand factor and α_2-antiplasmin. VMA, a condition associated with aging, occurs when the gel-like vitreous humor that fills the cavity between the lens and retina liquefies and contracts. This can result in complete detachment of the gel, which has no major consequences, but a partial vitreous detachment can result in damage to the macula, a part of the retina essential for central vision, and visual distortion. Jetrea, administered as a single injection, degrades the fibronectin and laminin fibrils that form residual connections between the vitreous gel and the retina. Vitrectomy (surgical removal of the vitreous gel) is the only available treatment at present, but the procedure can cause complications and is usually reserved for severe cases.

Preliminary evidence suggests that prior administration of Jetrea can improve the surgical outcome, but the drug will itself resolve the problem for some patients, without any need for surgery. In ThromboGenics's phase 3 program, 26.5% of eyes treated with ocriplasmin achieved VMA resolution, versus 10.1% of those that received a placebo injection (*N. Engl. J. Med.* **367**, 606–615, 2012). The high placebo figure is thought to be due to a beneficial physical effect arising from an injection of a placebo solution. Ocriplasmin also met several secondary efficacy endpoints, including complete posterior vitreous detachment, closure of macular holes and improvement in vision.

The approval of the drug represents a neat bookend to the career of company founder and chairman Désiré Collen, who in 1980 discovered and developed with Genentech (now part of Basel-based Roche) the clot-busting stroke drug recombinant human tissue plasminogen activator (tPA), which generates around $494 million in worldwide sales each year. **Cormac Sheridan** *Dublin*