

Imagen Biotech Inc.

In-licensing novel candidates for sight-threatening diseases

With time to exit an increasingly important metric for venture investors as they woo limited partners interested in nearer-term returns, jump-starting new companies via in-licensing remains an important and oft-used strategy. That's especially true in ophthalmology where ongoing scientific studies suggest medicines developed to treat cancer or inflammation may have additional utility in the eye. Indeed, such de-risking via in-licensing is one of the defining principles behind such VC-backed start-ups as **Lux Biosciences Inc.**, **Ophthotech Corp.**, and **PanOptica Inc.** (See "Post-Macugen, Still In-licensing to Uncover Value in Ophthalmology," *START-UP*, July 2006.)

New York-based **Imagen Biotech Inc.**, a new ophthalmic play still operating in stealth mode, is no different. Led by Matthew Feinsod, a practicing ophthalmologist who has also worked at the Food and Drug Administration, Imagen differs from Ophthotech and PanOptica in the particular eye diseases of focus, but otherwise there are striking similarities. To begin with, the three start-ups share common venture backers—SV Life Sciences has staked all three companies, while Novo is an investor in both Imagen and Ophthotech. In addition, executives running the three companies all got their initial biotech management experience at **Macugen** (pegaptanib) developer **Eyetech Inc.**, and as a result, have a long relationship with David Guyer, MD, who co-founded the biotech before eventually joining SV Life Sciences as a partner. "It's the six degrees of David Guyer," Feinsod notes, only half-joking.

In addition to Novo and SV, Fidelity Biosciences also participated in the tranced, undisclosed round Imagen pulled in over the summer of 2011. The money will be used to in-license and advance three different clinical assets to Phase II, after which the goal will be to look for partners. "What's nice about the model is we have enough financing to fund three projects through Phase II," says Feinsod. "We won't have the added

distraction of fundraising" while simultaneously advancing programs in the clinic.

Feinsod hasn't definitively said what the assets will be—in fact he's still actively evaluating molecules worthy of building a company around. But the goal is to bring in compounds for sight-threatening diseases for which treatments are currently limited, including rare diseases like Stargardt disease, Leber's hereditary optic neuropathy, and potentially others. The area of initial focus, however, will be dry age-related macular degeneration, one of the leading causes of irreversible blindness that's heretofore been difficult to study because the pathology takes years to develop and the underlying etiology of the disease is poorly understood.

Believed to result when specific cells in the macula called retinal pigment epithelial cells break down or thin, dry AMD is characterized by the formation of fatty deposits called drusen. Patients with dry AMD typically suffer from a slow but irreversible loss of sight; still, it's not unheard of for dry AMD to progress to the wet form, which occurs when abnormal blood vessels proliferate under and/or within the retina, leaking fluid and blood that irreparably destroys vision.

The advent of anti-VEGF therapies such as **Lucentis** (ranibizumab) and **Avastin** (bevacizumab) has resulted in what Anthony Adamis, MD, **Roche/Genentech Inc.**'s VP and global head of ophthalmology, calls a "quantum leap" in the treatment of wet AMD. Even so, there's no single therapeutic counterpart to treat the dry version, which accounts for 90% of all diagnosed AMD cases. Thus, even if the factors causing dry AMD's progression remain mysterious, the large market—some 16 million Americans and Europeans are estimated to suffer from the condition—as well as the fact that no marketed therapy currently exists to treat the disease, means potentially large rewards to the companies that develop efficacious therapies.

"It's the largest ophthalmology market of all," notes Guyer, who estimates that a

469 7TH AVENUE
SUITE 221
NEW YORK, NY 10018
Phone: (212) 359-9491
E-Mail: CONTACT@IMAGENBIOTECH.COM

Contact: Matthew Feinsod, MD
Business: New treatments for dry AMD
Founded: 2011
Founder: Matthew Feinsod
Employees: 1
Financing to Date: Undisclosed
Investors: Fidelity Biosciences; Novo AS; SV Life Sciences

successful dry AMD drug could rival the sales figures of traditional primary blockbusters like the statins. And, says Guyer, the science has advanced enough in the past five years that it's now possible to make educated bets about the likely mechanisms of action that will prove to be important. "A company with multiple assets can diversify and the large market justifies the potential risk," he says.

Guyer and Feinsod aren't explicitly saying much about the potential mechanisms of action of greatest interest. As Feinsod puts it, "we're open-minded and will let the science drive the decision." In other words, the company will pursue molecules that, as of fall 2011, have the greatest likelihood of success based on the published data. To date that means Imagen is likely pursuing candidate molecules that work by one of four mechanisms: neuroprotection, visual cycle modulation, immune system manipulation, or anti-inflammation. There's plenty of competition in each arena; **Acucela Inc.**, for instance, has a Phase II visual cell cycle modulator designed to slow the formation of toxic retinal by-products implicated in AMD, while **MacuCLEAR Inc.** plans to start Phase III trials of its repurposed anti-hypertensive before the end of 2011.

But the rivalry to be first to market in dry AMD is greatest in the anti-inflammatory space, where a growing body of genetic evidence links the disease to the misregulation of the so-called complement cascade, an "early warning" immune system pathway that triggers inflammation after infection or tissue damage. Indeed, as studies published in high-profile journals

like *Science* have identified potential bad actors in the complement pathway, there's been an all-out race to lock down intellectual property, with big players like Genentech and smaller parties such as **Potentia Pharmaceuticals Inc.** and **Taligen Therapeutics Inc.** entering the fray. (See "Biotech's Eye Macular Degeneration," *START-UP*, July 2009.)

Such fierce competition could make it tough for Feinsod to find affordable assets impacting the complement space. Indeed, in October 2009 **Novartis AG** division **Alcon Inc.** licensed rights to Potentia's Phase II ready C3 complement inhibitor in a deal that included both an undisclosed up-front and an option to buy tied to developmental milestones. In January 2011, **Alexion Pharmaceuticals Inc.** spent \$111 million up front to acquire Taligen, lured partly by the company's work on a Factor H inhibitor.

Still, Feinsod and Guyer are confident good assets can be had at the right price. With Big Pharmas trying to pare R&D costs, notes Guyer, "there are more opportunities for in-licensing," especially in a domain like ophthalmology that requires such specialized expertise. Feinsod agrees, adding that such expertise is one of the major selling points to Imagen's strategy. Indeed, he predicts "potential licensors will still recognize that an experienced and focused team with funding in place is uniquely positioned to bring new drugs to patients."

And it's likely Imagen's openness to dif-

ferent mechanisms of action will be an added benefit. Feinsod admits that molecules with certain features would be preferable; compounds that have already been in the clinic and have strong safety and toxicology profiles would be preferable to earlier stage molecules, which will require more up-front work on Imagen's part to make them IND-ready. But as long as the science is sound, he says Imagen is definitely interested. The goal is to be very selective, but to in-license candidate compounds as quickly as possible.

Certainly the decision to bring in molecules that work by different mechanisms helps cut the scientific risk. Feinsod's decision to create as lean a start-up as possible – for now he's the only full-time employee – also means there's more money available for dealmaking. That's not to say Feinsod is flying solo. In addition to Guyer serving as executive chairman, Feinsod describes an Imagen advisory team comprising leading scientists and clinicians. "One of the key drivers of Eyetech's success was the quality of specialists advising the company," he says. For now the goal is to keep the start-up lean until it has in-licensed its first asset. Even then Imagen aims to employ a largely virtual model, outsourcing early stage research and clinical work to CROs, in a model that's now du jour across the industry.

Changes on the regulatory front also make now an opportune time to develop

dry AMD compounds, says Feinsod. "Vision has been the gold standard endpoint," he says. But because it can take years for the disease to progress, clinical trials to prove efficacy would need to be lengthy, and therefore expensive. Thus, it was a real step forward when the Food and Drug Administration signaled anatomical endpoints such as the growth of devitalized retinal tissue, also known as geographic atrophy (GA), would be acceptable. This willingness of the agency, coupled with an explosion in new imaging technologies, means investigators can test whether a potential therapeutic is working by monitoring the rate of geographic atrophy over a period of months.

It may also be possible to design clinical trials so patients at greatest risk of advancing disease are selected, a scenario that could also potentially limit the overall time – and therefore cost – of a clinical trial. Indeed, data suggest patients with particular drusen morphologies are at greatest risk of worsening dry AMD. Moreover, identifying such patients doesn't require expensive scanning technology but rather an examination of the retina via standard eye dilation.

No doubt, Feinsod's previous experience at FDA – he knows Wiley Chambers, MD, FDA's deputy director of transplant and ophthalmology products well enough to have co-written papers with the gentleman – provides an additional layer of confidence for Imagen's investors.

But at its most basic level, the Imagen investment comes down to a belief that some smart in-licensing can defray the scientific risk, yielding a compound or two that will provide benefit in an area where currently no therapy exists. In a world where payors increasingly have power over the commercial success of a compound, it's about developing innovation where the unmet need is greatest.

[A#2011900209]

– ELLEN FOSTER LICKING

When it comes to in-licensing, Imagen's team is open-minded about the compound and the sight-threatening disease it treats, preferring to let the scientific data drive the decision.