



Bedford Biotech Gains Steam and Attention. Research Based on Fish Oil's Benefits Draws Backers to Resolvix.

By **Todd Wallack, Globe Staff**

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For years, many doctors have extolled the medical benefits of eating oily fish, which are laden with omega-3 fatty acids thought to reduce the risk of heart disease and other conditions.

Now Resolvix Pharmaceuticals Inc., based in Bedford, hopes to use recent scientific research on how omega-3 fatty acids work to develop a powerful new class of drugs to treat inflammatory diseases, ranging from asthma to cardiovascular problems.

"The potential for this is very broad and very large," said Resolvix chief executive Paul Rubin, who previously worked at Critical Therapeutics Inc. of Lexington and Sepracor Inc. in Marlborough. "Recent data suggests there aren't many diseases that don't have an inflammatory component."

The three-year-old company is already starting to be noticed by investors. Resolvix today is expected to say it has raised \$25 million in a second round of venture capital led by QVT Financial LP, in addition to an earlier round of \$17 million.

Local investors include Biogen Idec Inc. in Cambridge, Partners HealthCare of Boston, Flagship Ventures of Cambridge, and Atlas Venture, which has an office in Waltham.

"It's a really cool technology," said Christoph Westphal, chief executive of Cambridge-based Sirtris Pharmaceuticals Inc., which is trying to treat aging-related diseases with a reformulation of a chemical found in red wine. Westphal said he eyed Resolvix several years ago when he was working as a venture capitalist.

GlaxoSmithKline, the British pharmaceuticals company, already markets a prescription drug called Lovaza that is based on a concentrated form of omega-3 fatty acids. Lovaza—which is aimed at reining in high levels of triglyceride, a type of fat found in the bloodstream that has been linked to heart disease—generated \$206 million in sales through the first nine months of last year, more than double its tally in the same period a year ago.

But Resolvix is taking a different approach.

Cofounder Charles Serhan, a scientist at Brigham and Women's Hospital in Boston, found evidence that omega-3s are important because the body uses them as raw materials to create another set of compounds, called resolvins, which help regulate the immune system. Without enough resolvins, the body has trouble stopping inflammation—a key way it fights off disease—after the threat has passed, contributing to an array of diseases, including arthritis.

So why not just consume more fish oil? Some researchers suspect that people with serious inflammatory diseases may have trouble converting omega-3s to resolvins.

“You could take all the omega-3 supplements in the world and it wouldn’t be any benefit,” Rubin said. In addition, Resolvix executives say ingesting large quantities of fish oil has unwanted side effects, ranging from indigestion to smelling like fish.

So far, the company has only tested its drugs in rodents, such as asthmatic mice. But Resolvix plans to test one compound, RX-10045, in humans this year to treat dry eye. And within the next year, it plans to launch clinical trials for another compound, RX-10001, to treat asthma. Resolvix eventually hopes to determine whether the drugs can effectively treat more conditions, including rheumatoid arthritis, inflammatory bowel disease, cardiovascular diseases, and other eye problems.

Rubin said the latest venture capital round will give the company enough money to last through the third quarter of 2009, when it hopes to have enough positive data from clinical trials to significantly increase the value of Resolvix—enabling it to raise more venture capital or form a partnership with a larger drug company.

Resolvix has also tried to recruit respected researchers and executives to its board to build credibility. Today, the company plans to name two new board members: Sepracor’s former chief executive, Timothy Barberich, and Radius Ventures partner George Milne, who formerly worked as a research executive for Pfizer Inc.

Still, the company, which has fewer than 30 employees, is years away from winning approval from federal regulators to market the drugs. Unforeseen problems often show up in clinical trials, preventing many promising drugs from making it to market. No matter what the potential is for its products in development, Resolvix faces formidable challenges.

“One of the hardest things you can do is to secure an indication from the Food and Drug Administration for the ability to treat a specific disease,” said GlaxoSmithKline spokesman Robert Perry.

Todd Wallack can be reached at twallack@globe.com.