

El Cajon Biotech Gets Collaboration with Ciba

By Terri Somers

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Pure Bioscience, a tiny El Cajon biotechnology company, is getting its big break into the billion-dollar antibacterial products market with a marquee collaborator, Ciba Specialty Chemicals.

Pure announced Monday that it is granting exclusive marketing rights for its patented technology using silver dihydrogen citrate, or SDC, as a germ-killing ingredient in personal care products to Ciba, a Swiss chemical giant.

The 25-person company is also giving Ciba non-exclusive rights to its silver technology for use in household and industrial products.

Financial terms of the deal were not disclosed.

Shares of Pure gained 10 cents, or 4 percent, Monday to close at \$2.75.

Ciba now manufactures ingredients for products ranging from toothpaste to body lotion to counter cleaners, for consumer goods companies, including Procter & Gamble. For example, Ciba manufactures an ultra-violet filter that Johnson & Johnson adds to its products to give them a sun protection factor.

Under Monday's agreement, Ciba will be able to offer its customers Pure's antimicrobial technology. It will give makers of soaps, lotions, toothpaste and other goods an alternative to current antimicrobial ingredients, including formaldehyde and triclosan, both of which have been controversial because of concerns about their impact on the environment and the body.

While Ciba argues there is no scientific data to back up the consumer complaints, this new product gives the company's clients a choice.

"Ciba's global reach, well-established customer base and commitment to innovation make it an excellent partner to drive SDC into the personal care, household and industrial markets," said Pure's Chief Executive Michael Krall.

Pure is looking to sign deals that would introduce its SDC technology as an ingredient in products for the industrial, pharmaceutical and agricultural markets, including in food and water, he said.

Ciba liked Pure's product because it is a versatile antimicrobial, killing a broad spectrum of bacteria and it can be put into many different formulations, said Catherine Ehrenberger, who heads Ciba's home and personal care lines.

It's also fast acting and effective at low concentrations, which makes it cost effective, Ehrenberger said. And because silver is a natural product, it allows manufacturers to make a natural claim on their labels, she said.

“We are especially excited about the opportunities in the cosmetics market, where manufacturers are increasingly expected to deliver antimicrobial benefits without compromising the look and feel of their products,” Ehrenberger said.

Pure and Ciba have been working together for more than two years, under a previous collaborative agreement, to formulate SDC in ways that could be tested in products as a microbial or preservative, Krall said.

Founded in 1992, Pure Bioscience went public in 1996, raising about \$4 million in its initial public offering. In 1999, it began acquiring the rights to the silver technology. Silver's role in medicine became clear in the late 1800s and early 1900s, when it was widely used in wound care and burns.

More recently, it has been used to clean drinking water systems, like those used to supply water fountains and pools, in place of chlorine. By electrically charging water, it throws out silver ions that work as a natural disinfectant.

But the effect doesn't last for long.

Pure's scientists figured out a way to create longer-lasting silver ions by electrically charging a solution of citric acid. The result is a new method for creating a novel molecule, according to an independent scientific study.

SDC is thought to work in two different ways.

Bacteria view it as a food source. Once inside the organism, SDC destroys it by disabling proteins or denaturing its DNA, halting metabolic and reproductive functions.

The bacteria then die.

SDC also has an attraction for the thiol group of proteins on the cell membrane of bacteria and will attach to it. Specifically, it forms a strong bond with the sulfur in these proteins and deactivates it, preventing the protein – the cell's worker bee – from functioning.

That kills the cell.