

## BUSINESS

# Local firm to help Kraft develop new health foods

● Minnetonka drug researcher Medisyn Technologies uses math to identify health benefits.

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Medisyn Technologies Inc., a Minnetonka-based start-up that helps pharmaceutical companies discover new drugs, has signed a deal with Kraft Foods Inc. to help develop foods that offer specific health benefits.

Using mathematical algorithms, Medisyn will try to identify new health benefits from existing natural food compounds that, for example, might help lower cholesterol, improve digestibility and strengthen bone density.

"There are multiple ways to help manage disease conditions [like diabetes or osteoporosis] by eating healthy," said Medisyn President David Land. "Our job is to determine a healthy food that may be relevant to those conditions. The challenge for humanity is, 'Can you actually identify specifically what these compounds provide by way of a benefit?' If so, then you can consume [foods] more intelligently."

Faced with sluggish sales and low profit margins, food manufacturers are racing to develop so-called "nutraceuticals," higher-priced foods that promise consumers a specific health benefit. For instance, General Mills Inc. of Golden Valley claims Cheerios can help lower cholesterol and Yoplait yogurt can reduce lactose intolerance. Global sales of nutraceuticals will hit \$177 billion in 2013, up

from \$124 billion last year, according to a recent report by BCC Research in Massachusetts.

Kraft, maker of Velveeta cheese and Oreo cookies, in 2007 launched Live-Active foods, which contain microorganisms known as probiotics that can soothe the digestive system. In an interview Monday, Todd Abraham, Kraft's senior vice president of global research in nutrition and technology, said the company wants to speed up the introduction of new health and wellness products.

Medisyn's "technology allows us to get to market more quickly," Abraham said. "The health and wellness space is a major area of growth in the food industry."

Founded in 1999, Medisyn's primary focus was to help pharmaceutical companies develop new drugs. The company, which has raised \$9 million from investors including Sherpa Partners and StarTec Investments, has collaborated with Mount Sinai School of Medicine, the U.S. Defense Department and Invitrogen Corp.

Here's how its technology, dubbed "Forward Engineering," works: A chemical compound has "active" biological properties that can, for example, treat cancer and "inactive" properties that don't do anything. Using a series of complex mathematical equations, Medisyn can develop a "bioactive template" based on certain characteristics that distinguish the active properties of that compound from the inactive.

"The Medisyn approach looks at the compounds that have some effectiveness, for a given condition, and then discerns the topological characteristics that matter," said Mark Kroll, a medical devices entrepreneur who sits on the company's board of directors. "It is faster, simpler, but more elegant" than what drug companies normally do.



David Land

Based on that bioactive template, Land said the company can explore new classes of chemicals in hopes of developing truly novel drugs, a rare occurrence in the pharmaceutical industry where knock-offs and reformulated "me-too" drugs dominate the market. The idea is to help drug companies identify the most-promising formulations, cut research and development costs and introduce products faster, he said.

That's what appealed to Kraft, which has been partnering with outside firms like Medisyn to boost innovation and adapt quickly to consumer trends.

"We are doing a lot of work in open innovation," Abraham said. "We are interested in novel technologies that have not typically been on our radar screen."

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