



A delectable find

GLYCEMICON The growing social and financial threat of diabetes is keeping healthcare insurers and politicians up at night. Swiss researchers have found a way to possibly ward off the disease before it manifests. A nutraceutical may be the last bulwark against overeating and under-exercising.

“It was a textbook spinoff,” says Nadja Mrosek. Researchers from the Swiss Federal Institute of Technology (ETH) in Zurich happened across a molecule that effected the development of fat cells. They went looking for the inhibitor of the molecule, and found it. With the help of a serial entrepreneur, the scientists then founded a company. “Obviously, founding a company is never a picnic,” laughs CEO Mrosek. “But all in all, it went smoothly.”

The Swiss start-up Glycemicon targets one of the major diseases of our times: diabetes. “It’s an epidemic,” said Mrosek. In a society where overeating is the norm and getting sufficient exercise the exception, diabetes type 2 runs rampant. “It used to be an old people’s disease. Today, even young children acquire diabetes,” Mrosek explains. Yet, it still takes a while for the disease to develop, and that is where Glycemicon steps in. In prediabetic patients, fat cells are often enlarged, and sensitivity to insulin is reduced.

Elemental for this process is ROR γ , which in turn is inhibited by tetrahydroxylated bile acids (THBA), a bile acid that occurs naturally in humans and in various food products. When THBA is given



NADJA MROSEK
Glycemicon, CEO

? How are you going to change the world?

! We are going to develop an early-stage mechanism to counter the onset of diabetes – the epidemic of our time.

to mice, it blocks ROR γ activity. Thus, it promotes the formation of new, smaller fat cells and restores insulin sensitivity. Intriguingly, that holds true even if the mouse continues to eat a high-fat diet. Overall, the mouse’s weight stays the same. “The higher number of fat cells does not equal more fat overall,” says Mrosek. “However, the small fat cells are much more sensitive towards insulin.”

It took six to found

When two ETH professors Erick Carreira and Christian Wolfrum and two researchers discovered the blocker, the

foundation of a company to bring the tech to market was the natural next step. Strengthening the founding team were Mrosek herself and Peter Harboe-Schmidt, start-up coach at the Swiss federal innovation agency Commission for Technology and Innovation (CTI) who had already co-founded SpiroChem and Xigen Pharma. The two were hooked right off the bat.

Initially, the funding came from the founders’ own pockets, but that money was soon supplemented by the start-up competition Venture Kick and a CTI grant. The ETH, as well, offers support to its spin-outs. “Having the infrastructure to do proof of concept is a great boon to a fledgling company,” Mrosek knows.

Meanwhile, the company has managed to raise €4m. Enough to get them through preclinical studies. There is currently another fundraising round under way to finance clinical trials, which are scheduled to start in 2017. Not quite a pharmaceutical drug, the compound will get to patients as a so-called nutraceutical. Medical foods, a certain form of nutraceuticals, can be prescribed by a physician, and patients will have to be monitored by their doctor, similar to regular drugs. But with a little luck, the road to the market is slightly less rocky. The safety of the naturally occurring compound in particular is unlikely to be an issue, Mrosek believes. “So far, THBA has shown an excellent safety profile. We are not worried.”

In 2019, Mrosek hopes, the product will be ready to get to patients. “We have a completely novel mechanism on hand,” she says. “There is nothing comparable on the market at the moment.” ■

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Picture: Glycemicon

GLYCEMICON

COMPANY PROFILE



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