

## The Best Medicine

An innovative pharmaceutical company, NattoPharma is investing in studies that show the benefits of the K2 vitamin and how the medical profession should be paying attention to it.

Images courtesy of NattoPharma

ne health industry is growing year on year, and vitamin supplement research and production is a burgeoning business. NattoPharma's business is in the documentation, manufacturing, and development of vitamin K2. Hogne Vik is the CEO of NattoPharma, and says that he knew he was going to work within the medical field since he was a child. He comes from a family of doctors; his father was a general practitioner. Because of this, Hogne always had a desire to help people and fix what was ailing them. "I am the oldest son in a general practitioner family in Norway," Hogne explains. "I grew up with my father constantly busy with patients in his office in the morning, and in the afternoon he was out visiting patients by driving to their homes.

"In my family, we were four children, and it ended up that two became physicians, one a nurse and one a professional musician. In addition to taking care of our family, my mother was constantly busy answering questions from

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patients and scheduling my father's afternoon visits. To be a part of the local physician family had a big influence on me growing up, teaching me that we all should take care of people and try to help them in a healthcare setting.

"I was dedicated to be a physician since I was five, and I would take phone calls at home when my mother was not there, trying to pick up information from and help the patients. It was therefore a natural choice for me to start my medical university education as soon as I had finished the Norwegian 'gymnasium' [school]. I was a clever pupil, and was allowed to start my medical education early. My idea was to become a normal physician helping people, but it didn't end up quite like that. During my medical education I got interested in and was very curious about the mechanisms behind diseases, and how we can improve the diagnostic world and have more understanding about how diseases developed."

It was this curiosity about disease and cures that led Hogne to work in his current industry. He started at a

university hospital doing research on immunology and allergic diseases, and from there ended up working in the pharmaceutical industry. "After I finished medical school, I worked at the university hospital in Bergen, Norway, for around 10 years within research on immunology and allergology and as a specialist in clinical chemistry. Everything we did was focused to try to identify early signs of diseases and how we then could help people the best way, to treat or inhibit further development as soon as possible after we had diagnosed the disease."

Hogne has worked for a number of pharmaceutical companies, including being on the board of NattoPharma before being appointed as CEO in 2012. "NattoPharma and vitamin K2 has been one of my passions for a long time, because in parallel with other jobs, I was involved when NattoPharma was started as a company in the very beginning as a hired consultant. I was chairman of the board in NattoPharma when we went to the stock exchange in 2008 and was asked to come back to the company as CEO in order to secure more >



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growth, activity and focus in the organisation in 2012."

Hogne was extremely interested in vitamin K2 from the first moment he learned about the compound. "The first time I learned about vitamin K2 was in 2001," he says. "There were studies saying that in Japan there was a part of the population where they used to eat this fermented food called natto. These populations used that food for daily consumption, and they had documented less development of osteoporosis than the population in Japan where they didn't have this diet.

"That was the start of my interest in vitamin K2. Over the years, NattoPharma has been able to document that vitamin K2 is important and needed to maintain strong bones and also to inhibit development of arterial calcification. For the whole period since NattoPharma was founded in 2004 up until 2012, the focus for NattoPharma has been to come up with hard facts generated in biological test models, from animals and especially from humans, proving that vitamin K2 is important for strong bones and good blood vessels."

Research and development is a key focus of NattoPharma. As with any pharmaceutical company, demonstration of the effectiveness of the product and scientific evidence are essential for success. Hogne explains that this is a huge challenge for him as a CEO; the company has commissioned a number of studies to try and combat the communication issues surrounding K2.

"It is not enough to have a good product and have it available; the awareness within the medical field has been extremely important. The first part of the results of our three-year clinical trial with our compound MenaQ7 vitamin K2 was published in 2013, demonstrating that increased bone health development was clearly connected with use of our product, compared to the placebo group of individuals. In February 2015, the second part of the three-year study was published, documenting and

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proving that arterial stiffness was reduced in the group of 120 individuals that had used MenaQ7 daily for three years.

"These two publications are more or less the medical evidence that demonstrates that our substance works. The biggest challenge for NattoPharma when coming into the pharmaceutical industry is that we must convince the pharmaceutical industry that K2 is important, not only for inhibiting development of diseases but also to treat diseases."

The existing scientific backing and data from clinical studies with MenaQ7 are also important for potential future commercial and development partners for the company. NattoPharma has already developed close relationships with scientific partners such as Maastricht University, but is now focusing on growing the company and the use of K2 by entering the pharmaceutical drug segment. "We are currently in discussions with several potential partners for a drug development program of vitamin K2," Hogne says. "In order to convince one or several of these partners to work together with us, they need to believe in the science and documentation for MenaQ7 vitamin K2 and they need to believe in the big commercial potential for the substance. They also need to take into consideration and evaluate all the data we have generated in biological investigations with MenaQ7 vitamin K2.

"In 2006, NattoPharma was able to come up with an exclusive R&D and product development agreement, including existing and future MK7 patents generated from the collaboration with Maastricht University. This was a very proud moment for NattoPharma. I was in charge of that negotiation, and from being a very small start-up company in Norway, we suddenly had ownership of important vitamin K2 patents and access to a lot of knowledge and science that could make vitamin K2 more documented and well known. This agreement also made NattoPharma able to build a commercial platform based

on patent protections and new, exclusive products rights."

It's been a long journey for NattoPharma so far, and huge challenges still lie ahead. One of the keys to NattoPharma's success, Hogne says, has been ensuring that the right people are working in the company and are committed to its future. "During my more than 25 years within the industry, I have learned a lot about how to pick the right people," Hogne says. "You need to set up goals for what you are doing; you need to trust people, respect people; and also realise when you need experts from outside to help you in your projects."

For the future, Hogne wants to continue the growth of K2 in the market and invest in more research and development into the benefits of the vitamin. His aim is to show the medical community how K2 can be used not just as a supplement, but as a drug to treat diseases such as osteoporosis and arterial calcification. Hogne has a strong opinion that MenaQ7 vitamin K2 has a bigger potential as a drug than omega-3 fatty acids. Ultimately, the higher use of K2, Hogne explains, could lead to lower rates of osteoporosis and cardiovascular conditions, which would be positive for everyone.

"We are working hard and will be able to launch vitamin K2 as a drug, hopefully long before 10 years from now. We hope to do this drug development in a smart way. Our success also depends on how the medical environment and the physicians, my previous and existing colleagues, will evaluate the substance and the documentation behind it. Physicians are historically sceptical about dietary supplements. However, I am sure that solid medical documentation for how vitamin K2 works, both for prevention and treatment of osteoporosis and cardiovascular diseases, within the near future also will make physicians ambassadors for MenaQ7; just the way it was when omega-3 went from being just a dietary supplement to a drug." •