

Genovis acquires exclusive license for upconverting nanoparticles and plans launch within 1 year

Genovis has acquired an exclusive license for a new technology that uses so-called upconverting nanoparticles as contrast agents in optical biomedical imaging. Genovis is acquiring the license from Lumito, a LUAB company, including an option to acquire the technology as a whole.

The license grants exclusive rights to upconverting nanoparticles and to the technology required to detect particles in biological material. Genovis has already developed a technique for coating nanoparticles with a nontoxic surface that provides stability and good distribution in various organs and biological tissues. By combining Genovis' technology with the acquired license Genovis will soon be able to offer a product on the technology front. The goal is to commercialize the technology within one year, primarily for the preclinical market, and ultimately to evaluate the clinical potential of this technology.

"For Genovis the license means that we can be on the leading edge of a new growing market with large potential. We will expand our customer base and complement our portfolio with yet another unique product. We've had the pleasure of learning about this exciting new technology at an early stage through Professor Stefan Andersson-Engels and his research group, who invented the concept. By combining their knowledge of optics with Genovis' knowledge of nanoparticles within biomedicine we will be able to create a commercial product relatively quickly. We have already noticed interest in new optical nanoparticles, so we are truly looking forward to launching the product," says Sarah Fredriksson, CEO of Genovis.

"By combining the technology that we developed at the Division of Atomic Physics at Lund University with Genovis' extensive expertise in coating and functionalization of nanoparticles, we foresee the potential for exciting new opportunities to open up in optical biomedical imaging. Genovis appears be a highly suitable partner for commercializing this technology, so we are extremely pleased about this agreement," says Stefan Andersson, professor of physics at Lund University.

"We believed in the commercial potential of this invention from Professor Stefan Andersson and his fellow researchers already at an early stage. For Lumito, the collaboration and license deal with Genovis mean a commercial product with large potential can be developed and fast-tracked to a growing market," says Christine Widstrand, Senior Advisor, LUAB.

LUAB, a company wholly owned by Lund University, is tasked with assisting researchers at the university to bring their research findings and ideas to the market. LUAB assists and finances startup companies and licensing deals, but also own, sells and manages shares in companies that have their origin at Lund University. LUAB currently holds a stake in about 35 companies.



MORE ON OPTICAL IMAGING

About 15 companies market the equipment required for optical imaging in the preclinical setting. Approximately 3,000 instruments are installed, with about 800 added annually. Genovis' new technology for the use of nanoparticles as contrast in preclinical research mainly focuses on this customer group. The market for optical contrast agents intended for molecular imaging in preclinical applications is worth about USD 80 million and expected to grow around 16% annually over the next few years.

Optical imaging is one of two technologies that make it possible to follow the progress of a substance in tissue all the way down to the molecular level, which is used in situations such as studying in detail how a medication works and acts. Increasingly stringent demands from regulatory authorities require the mechanism of action of a medication to be carefully studied and verified. Biomedical imaging is a good technology for studying mechanism of action and dynamic processes over time. The dominant methods in the field are SPECT¹ and PET¹ which use radionuclides as markers. In the past, optical technology has demonstrated lower resolution and less sensitivity in deep tissue than PET and SPECT, but the upconverting technology substantially improves both properties. Since optical imaging is simpler and less expensive, and does not depend on radionuclides, the current trend is already toward a sharp increase in optical methods. Moreover, the upconverting nanoparticles are not at all as toxic as other optical contrast agents (quantum dots). With the improved performance associated with the upconverting technology, optical imaging will capture new market share.

Positron emission tomography (PET) is a medical imaging technique based on the use of radioactively labeled molecules, used for functions such as monitoring metabolism in an organ or following how various substances move throughout the body. **SPECT** is an alternative to PET, but uses different radioactive substances.

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