



Lipidomics paves the way to groundbreaking scientific discoveries

VIB's Technology Watch team has been active for almost a decade, continuously analyzing the potential of emerging technologies and mediating researchers' access to them. By expanding VIB's network of technology suppliers, purchasing licenses and negotiating business partnerships, the Tech Watch team enables VIB scientists to have privileged access to cutting-edge scientific innovations. One example comes in the form of a powerful lipidomics research tool made available to VIB scientists through a collaboration with Lipotype, a Max-Planck spin-off and key service provider. Since 2015, Lipotype technology has been a crucial factor in several major breakthroughs in multiple life sciences domains.

The benefits of a dedicated lipidomics collaborator

Lipidomics, or the analysis, identification and quantification of lipids, has important applications in basic and clinical research, as well as in the nutrition, cosmetics and personalized healthcare industries. Using Lipotype's Shotgun Lipidomics Technology, researchers can rapidly analyze large samples at reasonable prices, benefiting from the ultra-broad coverage and absolute quantification of lipids enabled by this technology.

Mark Veugelers (VIB Tech Watch): "The Tech Watch team, in close collaboration with VIB group leaders, is constantly on the lookout for new technologies that can have a major impact on our research. The Lipidomics services Lipotype offers is a good example. But identification of a novel technology with potential isn't enough to produce breakthrough results. Key in the process is the hands-on experience of VIB scientists when evaluating the potential of these novel technology opportunities."

Oliver Uecke (Lipotype): "Tech Watch at VIB is a fantastic instrument to support technology transfer. It's a win-win situation for all parties involved: VIB researchers get access to innovative technologies early on, while technology providers have the tech watch team as single entry point to address the VIB collective of researchers. VIB profits from providing their researchers with means to generate cutting edge research results and with an improved basis for licensing and spin-off creation."

Better tech integration, impactful results

After just two years of collaboration, VIB scientists working with Lipotype have published three papers in high-impact academic journals. This demonstrates the fact that partnerships between VIB and specialized tech service providers and the integration of new innovations into VIB research leads to more and faster discoveries.

Prof. Wim Annaert (VIB-KU Leuven): “Lipotype’s Shotgun technology was critical to our recent paper on a new approach to analyzing subcellular dysfunction. Our next challenge is now to integrate lipidomics with proteomics data to better understand what goes on at the level of a single subcellular compartment for instance in a disease context.”

(relevant publication: A novel approach to analyze lysosomal dysfunctions through subcellular proteomics and lipidomics: the case of NPC1 deficiency, Tharkeshwar et al., Scientific Reports 2017)

Prof. Patrik Verstreken (VIB-KU Leuven): “My team recently made groundbreaking discoveries related to mitochondrial defects in Parkinson’s Disease. Tech Watch – and access to Lipotype tech in particular – were essential to these findings.”

(relevant publication: Cardiolipin promotes electron transport between ubiquinone and complex I to rescue PINK1 deficiency, Vos et al., J Cell Biol 2017)

Prof. Rose Goodchild (VIB-KU Leuven): “Tech Watch funding significantly boosted our confidence in collaborating with Lipotype for our work on cellular lipid metabolism. Lipidomics is a key emerging technology that we don’t have in-house, and our access to it – especially when it comes to molecular and cellular research – adds huge value to our projects.”

(relevant publication: Torsins Are Essential Regulators of Cellular Lipid Metabolism, Gonzalez et al., Developmental Cell 2016)

VIB Tech Watch

Through the strategic application of VIB Tech Watch funds, VIB labs boast groundbreaking new technologies such as those enabling human genome sequencing, bioinformatics, next generation DNA sequencing, and a diverse range of visualization and proteomics technologies. Over the years, Tech Watch has gathered in-depth information about disruptive technologies that could aid VIB scientists, sharing over 100 of these innovations with the entire organization in the last eight years and assisting researchers in obtaining funds to use these technologies to do better research. VIB’s partnership with Lipotype is only one illustration of how the VIB Technology Watch team drives cutting-edge science.

More info

VIB

Basic research in life sciences is VIB’s raison d’être. On the one hand, we are pushing the boundaries of what we know about molecular mechanisms and how they rule living organisms such as human beings, animals, plants and microorganisms. On the other, we are creating tangible results for the benefit of society. Based on a close partnership with five Flemish universities – Ghent University, KU Leuven, University of Antwerp, Vrije Universiteit Brussel and Hasselt University – and supported by a solid funding program, VIB unites the expertise of 75 research groups in a single institute. VIB’s technology transfer activities translate research results into new economic ventures which, in time, lead to new products that can be used in medicine, agriculture and other applications. VIB also engages actively in the public debate on biotechnology by

developing and disseminating a wide range of science-based information about all aspects of biotechnology.
More information: www.vib.be.

Lipotype

Lipotype is a spin-off company from the Kai Simons and Andrej Shevchenko labs of the world-renowned Max-Planck-Institute of Molecular Cell Biology and Genetics in Dresden, Germany. Drawing on many years of cutting edge research experience, Lipotype delivers comprehensive, absolutely quantitative lipid analysis services for clinical and biological samples on a high-throughput scale. Lipotype offers high quality lipid analysis services for a wide range of customers and applications including biomarker identification for clinical researchers, pharma and biotech companies, functional food development for the food industry, claim support for the cosmetics industry, as well as for the small-scale profiling needs of academic researchers.

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