

Green chemistry start-up Sulfotools closes seed round with i&i Prague.

Darmstadt (Germany) 21.04.2021 – Peptides, small proteins with a broad range of biological properties, are used as active ingredients in many different products, e.g. as therapeutics (cancer treatment), in cosmetics (anti-aging products) or nutrition products. However, only few people are aware that the chemical production of such compounds is associated with immense consumption of toxic solvents and CO₂ emission. Sulfotools GmbH, as spin-off of Technical University of Darmstadt, has developed a sustainable chemical peptide production method using water instead of toxic solvents, the Clean Peptide Technology (CPT). Together with the Czech biotech incubator & investor i&i Prague, Sulfotools will commercialize its technology to make peptide production more sustainable and eco-friendlier.

For economic reasons, the majority of marketed peptides are produced chemically via the so-called solid-phase peptide synthesis (SPPS, state of the art). Each year the peptide industry consumes tens of thousands tons of environmentally harmful, hazardous and expensive organic solvents for the manufacturing. Additionally, the application of such solvents is associated with significant risks for humans and the environment (immense CO₂ emission). *N,N*-dimethylformamide (DMF), the most common solvent used for peptide synthesis is toxic, teratogen and classified as *Substance of Very High Concern* (SVHC) by the European Chemicals Directive REACH. Especially, in cosmetic peptides residues of these toxic solvents are problematic and therefore, the purification of such peptides is very cost intensive.

Sulfotools Clean Peptide Technology (CPT) combines the advantages of chemical synthesis with the mild and sustainable conditions of recombinant production. It is based on novel water-soluble building blocks, the use of which allows for the complete substitution of toxic organic solvents with water during the manufacturing process. Additionally, CPT includes an efficient purification system, a simple wastewater treatment option and due to intrinsic fluorescent properties, for the first time a real-time monitoring of the reaction progress, altogether leading to cost savings of up to 50% and at the same time to an eco-friendly production. Moreover, solvent-free end products can be produced which is an immense advantage for the application in the field of cosmetics and food supplements. Especially cosmetic and nutrition companies using CPT can advertise the benefits of a sustainable production directly to their end-customers.

The Sulfotools GmbH was founded in March 2016 by an interdisciplinary team from Darmstadt, Germany, which is driven by a clear vision: The greening of chemical peptide synthesis. The idea was born during the PhD research of Sascha Knauer at the Technical University of Darmstadt and filed in as patent application. Within the Exist I and II program of the German Federal Ministry of Economics and Energy (BMWi) the Clean Peptide Technology was developed to market-readiness. This included the demonstration of the applicability of the CPT by the successful peptide syntheses used in cosmetics or pharmaceuticals as well as in feasibility studies for renowned industrial customers. Moreover, the manufacturing processes for the water-soluble building blocks were optimized and are ready for up-scale. Together with i&i Prague Sulfotools will scale-up of the manufacturing of the water-soluble building blocks and start the commercialization of the technology. (www.sulfotools.com)

About i&i Prague

i&i Prague focuses on finding and supporting technologies developed in the Czech Republic and neighboring countries. The company is primarily dedicated to innovations in the field of drug development, diagnostics and medical devices from academic institutions. It supports the foundation of spin-off companies and investments in their pre-seed to Series A phase. So far, i&i Prague has supported more than 10 spin-off companies from 4 countries. It has an ownership stake in 9 of them and has invested a total of over €2.0 Million. These spin-offs co-invested by i&i Prague have already raised more than €45 Million from other investors. The company also assists in the commercialization of innovative technologies from over 15 research institutions and universities in the Czech Republic and abroad. Moreover, it has participated in the sales of more than 10 licenses.

For further information see: www.iniprague.com