Press release

Evonik is investing in NUMAFERM, a spin-off of Heinrich Heine University Düsseldorf

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- NUMAFERM makes the production of peptides more efficient
- Investment strengthens Evonik's growth engines Health & Care and Specialty Additives at Evonik
- New technical applications are becoming realistic for the first time

Essen. Through its Venture Capital unit, Evonik has invested in the start-up NUMAFERM and now holds a minority share in the biotechnology company, which is located in Düsseldorf. The investment was made as part of a seed financing round and also includes investments by High-Tech Gründerfonds, the Business Angels and Qiagen co-founders Detlev Riesner and Jürgen Schumacher, as well as the European Investment Fund. The volume of the overall round of financing is in the one-digit million-euro range. "Peptides and their applications are highly interesting for our growth engines Health & Care and Specialty Additives. In addition, Evonik has great competency in biotechnology. That makes NUMAFERM an outstanding strategic match for us," says Bernhard Mohr, head of Venture Capital at Evonik.

Currently, peptides are used above all as pharmaceutical or cosmetic active ingredients. In addition to their role as active pharmaceutical ingredients, peptides and proteins in general are a commercially interesting class of molecules, which are used in a variety of medical, cosmetic, and nutritional-physiological applications. The corresponding markets are the focus of the Health & Care growth engine at Evonik. Of particular interest are applications such as ingredients for cell culture media and for nutritional supplements or medical nutrients. Evonik is advancing the industrial use of peptides through its Specialty Additives growth engine.

The production of peptides, which are usually produced through chemical synthesis, is expensive. The reasons for this are the high quantities of raw materials needed, the complex process steps, and the usually low yields. NUMAFERM has now developed a

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technology platform, which enables plannable biotechnological production of peptides at higher yields and at lower costs. The technology can be used for almost all peptides, and production on an industrial scale become possible. As a result, new technical applications for peptides also become realistic for the first time.

Initially, NUMAFERM plans to use the fresh capital to drive forward technological development and get the first products to market maturity. "In Evonik we have found a strategic investor with extensive experience in developing innovative technologies and in tapping new markets," says Christian Schwarz, co-founder and managing director of NUMAFERM.

Schwarz laid the scientific foundations for the technology of NUMAFERM in his doctoral thesis at Heinrich Heine University in Düsseldorf. The company was founded at the start of 2017 as a spin-off of the Institute of Biochemistry. Previously, the project was supported by an EXIST research transfer of the German Federal Ministry for Economic Affairs and Energy, among others.

Peptides are protein fragments consisting of chains of up to 100 amino acids. They are considered especially versatile and very specific in their functions. However, peptides are difficult to produce biotechnologically. The reason lies in the process itself. In the biotechnological processes that have been available so far, certain enzymes (so-called proteases) are found inside and outside the cells in which the peptides are produced. However, these enzymes degrade the peptides. The only exception is the environment outside the *E. coli* cell. The problem: The bacterium has a double cell wall, which can be broken through only with difficulty. NUMAFERM now has a patented method that can be used to move peptides directly from *E. coli* into the protease-free environment.

Evonik plans to invest a total of €100 million in promising start-ups with innovative technologies and in leading specialized venture capital funds as part of its venture capital activities. Regional focuses are Europe, the United States and Asia.

Currently, Evonik holds stakes in eleven start-ups and eight funds. More information is available at http://venturing.evonik.com/

Company information
Evonik is one of the world leaders in specialty chemicals. The focus on more specialty businesses, customer-orientated innovative prowess and a trustful and performance-oriented corporate culture form the heart of Evonik's corporate strategy. They are the lever for profitable growth and a sustained increase in the value of the company. Evonik benefits specifically from its customer proximity and leading market positions. Evonik is active in over 100 countries around the world with more than 35,000 employees. In fiscal 2016, the enterprise generated sales of around €12.7 billion and an operating profit (adjusted EBITDA) of about €2.165 billion.

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