Transforming Purificaton

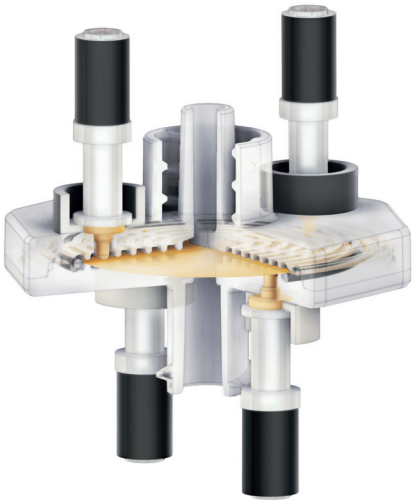
GENTLE PROTEIN PURIFICATION AT THE PUSH OF A BUTTON

Transforming Purification: How Digital Membrane Chromatography (DMC) Is Revolutionizing the Purification of Biological Products

The purification of proteins through chromatographic steps is a key process in biotechnology and often proves challenging. It is indispensable, particularly in the analysis and production of modern active substances for antibody-based and gene therapies. Membrane chromatography has established itself as a high-performance and efficient method. However, until now, the use of acid or other chemicals has been necessary to purify valuable active substances using chromatography. This carries the risk of protein aggregation.

Low voltage enables gentle purification

A novel process recently introduced by i3 Membrane GmbH in Radeberg promises to solve this problem for the first time while also opening up entirely new horizons in protein analysis and bioprocess development: **Digital Membrane Chromatography**. In this process, proteins such as monoclonal or bispecific antibodies and ADCs are gently released from the membrane surfaces using a low electrical voltage of up to 2 volts, thereby eliminating the need for acid. In addition, the purified products can be used directly in the appropriate solution—literally at the push of a button.



Benefits for research and industry

"With DMC, we are taking chromatography to a new level while ushering it into the digital age," says Dr. Stephan Brinke-Seiferth, CEO of i3 Membrane GmbH. Accordingly, he sees the new products as "real game changers for anyone working with proteins." The advantages are clear: "Researchers and pharmaceutical companies save time, protect their molecules, and unlock entirely new analytical possibilities."

First DMC products already available on the market

The first products available on the market are DMC membrane adsorbers with small volumes, particularly suitable for early-stage process development and research applications in both academic and industrial settings. Each filter can be used multiple times and is easy to clean. Additional products, designed especially for high-throughput applications and larger volumes, are expected to follow as early as 2026.

With Digital Membrane Chromatography, i3 Membrane reinforces its position as a leading innovator in membrane technology. Since its founding in 2013, the company has been developing solutions that make processes in the life sciences simpler, faster, and more sustainable. With DMC, i3 is setting a new milestone on this path–gentle purification at the push of a button: **Transforming Purification.**