

Open for Services

Defined EV-Products

enabled by

EVscale™ - Extracellular Vesicles at scale

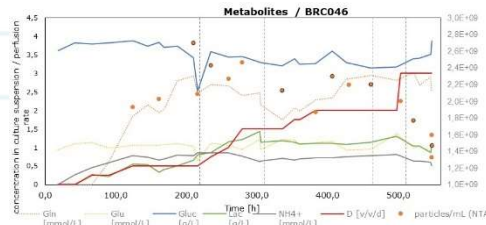
Understanding your therapeutic product is key for clinical and regulatory success. This is also true for Extracellular Vesicle (EV)-based products and - due to their inherent complexity - a challenge in itself. Stable MSC lines (MSC/TERT) and a productive perfusion process are the foundation for scalable and consistent EV supplies by EVscale™.



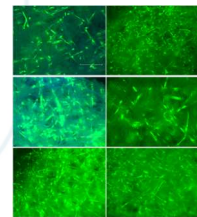
© Nalgene Thermo Fisher Scientific



Proprietary Perfusion Bioreactor setup (Patent pending, © Phoenestra GmbH)

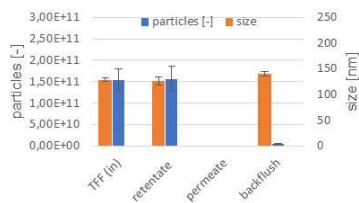


Perfusion Bioreactor run over 23 days (© Phoenestra GmbH)

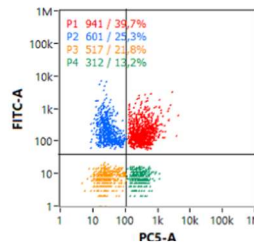


Viable cell on carrier after 2, 4 and 7 days (top to bottom) (© Phoenestra GmbH)

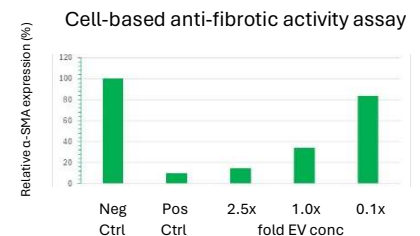
And EVscale™ goes beyond by assembling Downstream processing and analytical tools which enable better understanding and definition of EV-based products with a **Target Product Profile (TPP)**. EV preparations processed by Tangential Flow Filtration (TFF) and/or chromatographic separation methods are analyzed in-depth using orthogonal methods addressing particle number, size and nature, protein marker profiles, RNA composition and relevant functional biological activities.



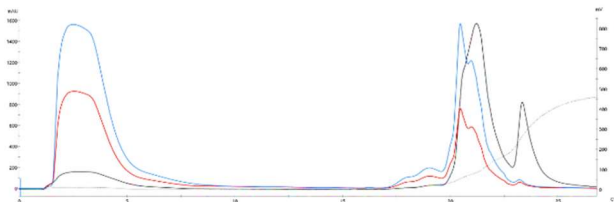
Particle yield and size distribution (TFF step)



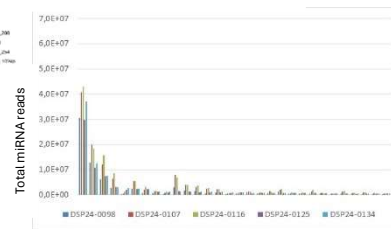
Flow cytometric surface marker analysis (NanoFCM)



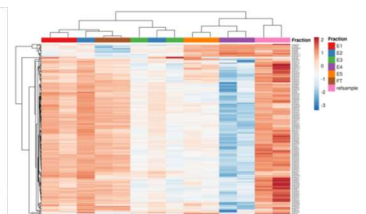
Cell-based anti-fibrotic activity assay



Example chromatogram of a preparative separation of EV (CIMmultus QA, kindly provided by Sartorius BIA Separations))



Quantitative analysis of microRNA species present in EV preparations



Heat map analysis of microRNA species present in different chromatographic fractions

EVscale™ has been developed in collaboration between **Phoenestra GmbH, Evercyte GmbH and TAMiRNA GmbH**

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