OmicPrep

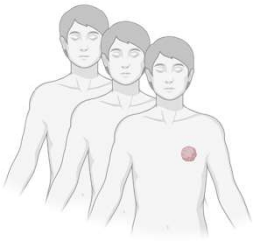
All-in-one device for end-to-end ultra-low volume multi-omics

MAX DELBRÜCK CENTER

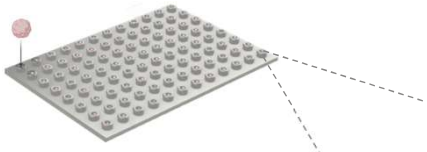
› Current omics-based diagnostics are usually restricted to a single molecular layer
› Large amounts of input material masks rare cell populations in disease
› Missed therapeutic opportunities when the full multi-omic landscape is not analysed

OmicPrep is a novel extraction device for high-throughput, ultra-low-volume multi-omic sample preparation with integrated metabolite derivatization.
Enables clinicians and researchers to probe every unit of information from a human cell

TECHNOLOGY

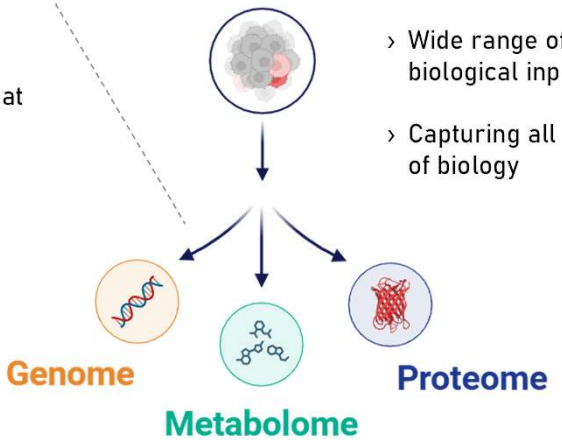


Patient samples



96-well format

› Novel extraction system
› Ultra-low volume
› Wide range of biological input
› Capturing all levels of biology



OmicPrep - Integrated multi-omics analysis

› Currently the only device for ultra-low volume integrated multi-omics
› Captures all levels of biology in a single workflow – no need for sample splitting
› Maximises value from precious low volume clinical samples reducing cost and time
› Scalable for high-throughput sample analysis and miniaturisation for microfluidics
› Supporting software and data analysis pipelines for stream-lined end-user data interpretation

Applications:

› Profiling of cell lines (e.g. Beta-cell maturity)
› Uncovering early metabolic and molecular changes – **earlier diagnosis and detection**
› **Real-time monitoring** of treatment response and disease progression

Development status

› TRL3-4
› **Proteins** detected down to single-cell level
› **Metabolic** kinetics of drug action characterised in head and neck cancer cells
› **RNA** profiled from same sample analysed for metabolomics and proteomics.

INTELLECTUAL PROPERTY

Membrane facilitated derivatization of carboxylic acids for single-cell applications

EP25221750.0 (11/2025)

PARTNER WITH US

We are seeking

› Co-development opportunities
› Licensing partners

RESEARCH EXPERTISE

› OmicPrep was developed by Dr. Martin Forbes in the group of Dr. Stefan Kempa

› Dr Kempa's lab specialises in Metabolomics and Proteomics in both research and technology development

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