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High-capacity screening site

Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP) – Screening Unit

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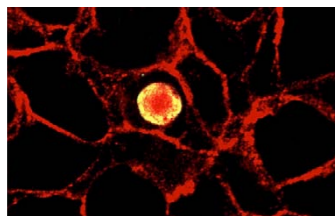


Dr. Jens Peter von Kries (Head of Unit)

„EU-OPENSREEN provides a unique chance to set European standards in Chemical Biology across platforms for systematic and open access of academic research teams to professional high-throughput screening technologies in Europe.“

At a glance

- Since 2004, the site has supported more than 300 projects with academia and Small and Medium Enterprises
- Experience in screening of bacteria, primary and iPS cells, organoids, nematodes
- Know-how in assay development, process automation and automated analysis, combinatorial analysis of primary and counter-screens
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- Experience in high-content screening from image to parameter conversion, to machine learning analysis
- Visiting scientists may contribute in our team and guide the process
- Additional project support by medicinal chemistry experts from the FMP for hit selection and optimization



Infrastructure and technical focus

- Morphological profiling of cellular responses by confocal imaging and pattern recognition in the context of toxicity profiling with HepG2-cells, iPS-cell differentiation and organoid cultures
- Support in assay optimization for HTS and professional assay acceptance testing
- Broad portfolio of screening technologies established for cellular systems and for protein, protein-ligand interaction or enzyme screens



Projects past and present

We supported projects for interference with Wnt-induced colon tumors, with Met-induced metastasis and with therapy resistant aggressive B-cell lymphoma. Two of these projects made it to clinical trials, one is still ongoing. Furthermore, we identified drugs which potentially interfere with vessel malformation and head strokes in teenagers in a rare disease. These are still in validation for specific interference, but are approved drugs which can be directly tested for this new application.

The platform actually serves for the Helmholtz-Initiative for Drug Research, EU-OPENSREEN and provides open access towards academic research.

Our science in selected publications

High-Throughput Screening for Modulators of CFTR Activity Based on Genetically Engineered Cystic Fibrosis Disease-Specific iPSCs
 ➔ [Stem Cell Reports \(2019\), 12, 6, 1389–1403](#)

Systematic pharmacological screens uncover novel pathways involved in cerebral cavernous malformations

➔ [EMBO Molecular Medicine \(2018\), 10, 10, e9155](#)

Small-molecule inhibition of STOML3 oligomerization reverses pathological mechanical hypersensitivity

➔ [Nature Neuroscience \(2017\), 20, 2, 209–218](#)

Pharmacological restoration and therapeutic targeting of the B-cell phenotype in classical Hodgkin lymphoma

➔ [Blood \(2017\), 129, 1, 71–81](#)

Further info and site-contact

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