

Palacký University Olomouc, Faculty of Medicine and Dentistry (IMTM)

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Dr. Marian Hajdúch (Head of Unit)

„We support the challenges of biological research with state-of-the-art technology in medicinal chemistry.“

At a glance

- High content analysis platform providing screening and high volume biology data on a broad diversity of assays and detection systems
- Industry strong, modular and flexible screening technology
- Testing in BSL3 and BSL2+ environment
- Screening in combination with ionizing radiation (X-rays), mass spectrometry, high content analysis and others
- Screening assays provide leads for downstream drug research and development
- Automated chemical library, capacity about 1.000.000 compounds



Infrastructure and technical focus

- The HTS/HCA screening platform is based on a state-of-art robotic system provided by HighResBiosolutions Ltd. The system consists of three robotic arms, automatic incubators, liquid handlers for microliter and nanoliter volumes, sealers, de-sealers, centrifuges and readers for fluorescence, luminescence, absorbance and ionizing radiation (LumijetBeta, FLIPR-PENTA, Envision, Viewlux).
- Also integrated with the system are wide-field or spinning disc confocal microscopes (Operetta, Yokogawa CV8000) equipped with software tools (Collumbus, CellProber) for image analysis and data evaluation.



Projects past and present

2020 - 2022 | **CZ-OPENSREEN** National infrastructure for chemical biology [↗ Link](#)

2018 - 2022 | **PERMED** Personalised Medicine - Diagnostics and Therapy [↗ Link](#)

2018 - 2023 | **ENOCH** Molecular, cellular and clinical approach to healthy ageing [↗ Link](#)

Our science in selected publications

Steroid Glycosides Hyrcanoside and Deglucohyrcanoside: On Isolation, Structural Identification, and Anticancer Activity
[↗ Foods, 2021, 10, 136](#)

Fluorinated derivatives of 2-phenyl-3-hydroxy-4(1H)-quinolinone as tubulin polymerization inhibitors
[↗ European Journal of Medicinal Chemistry, 2020, 192, 112176](#)

Alcohol-abuse drug disulfiram targets cancer via p97 segregase adaptor NPL4
[↗ Nature, 2017, 552, 194](#)

Metallacarborane Sulfamides: Unconventional, Specific, and Highly Selective Inhibitors of Carbonic Anhydrase IX
[↗ Journal of Medicinal Chemistry, 2019, 62, 9560](#)

Synthesis and Cytotoxic and Antiviral Profiling of Pyrrolo- and Furo-fused 7-Deazapurine Ribonucleosides
[↗ Journal of Medicinal Chemistry, 2018, 61, 9347](#)

Further info and site-contact

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