
Laboratory of Proteomics

Offer

- Preparation of biological samples prior to proteomic analysis, i.e. homogenisation, isolation, purification and fractionation
- One-dimensional polyacrylamide gel electrophoresis
- Two-dimensional polyacrylamide gel electrophoresis
- Differential polyacrylamide gel electrophoresis (DIGE)
- Gel imaging in visible and UV spectrum
- Gel image analysis including statistical evaluation
- Protein identification by tandem mass spectrometry
- Biofilm analysis of implantable devices and extracorporeal circuits

Expertise

The research team focuses on analysis of complex protein mixtures, including

- human and animal tissues and body fluids,
- as well as their derivatives, using a proteomic technology.

This center major advantage lies in its experience with processing and identification of real clinical samples, particularly

- uremic blood plasma,
- dialysate/ultrafiltrate of uremic blood plasma and
- dialysis membrane biofilm.

Members

- Jan Mareš, M.D., Ph.D. – Research Group Leader
- Jiří Moravec, Ph.D., M.Sc.
- Zdeněk Tůma, Ph.D., M.Sc.
- Jelena Kaňáková
- Ludmila Reifová

Selected Publications

- Mares J, Thongboonkerd V, Tuma Z, Moravec J, Matejovic M: *Specific adsorption of some complement activation proteins to polysulfone dialysis membranes during hemodialysis*. *Kidney Int* 2009
- Mares J, Richtrova P, Hricinova A, Tuma Z, Moravec J, Lysak D, Matejovic M: *Proteomic profiling of blood-dialyzer interactome reveals involvement of lectin complement pathway in hemodialysis-induced inflammatory response*. *Proteomics - Clinical Applications* 2010, 4: 829–838
- Mares J, Thongboonkerd V, Tuma Z, Moravec J, Karvunidis T, Matejovic M: *Proteomic Analysis of Proteins Bound to Adsorption Units of Extracorporeal Liver Support System under Clinical Conditions*. *J Proteome Res* 2009, 8: 1756–1764
- Thongboonkerd V, Chiangjong W, Mares J, Moravec J, Tuma Z, Karvunidis T, Sinchaikul S, Chen ST, Opatrny K, Matejovic M: *Altered plasma proteome during an early phase of peritonitis-induced sepsis*. *Clin Sci (Lond)* 2009, 116: 721–730
- Molacek J, Mares J, Treska V, Houdek K, Baxa J: *Proteomic analysis of the abdominal aortic aneurysm wall*. *Surg Today* 2014, 44: 142–151

Are you interested in this expertise?

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Experts and their department

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