

**LABORATORY OF PROTEOMICS
NATIONAL INSTITUTE OF HEALTH DR RICARDO JORGE, LISBON, PORTUGAL**

Mission:

The ultimate mission of the laboratory is to provide the society with new diagnostic, prognostic and/or follow-up tools based on proteomics allowing clinicians to truly tailor therapy.

Main Research Interest

- **Translational proteomics: biomarker discovery and validation for Chronic Lung Diseases** (e.g., Cystic Fibrosis, Asthma, COPD, Obstructive Sleep Apnea), **Lung Cancer** and **Liver diseases** (e.g, HCV-induced Cirrhosis and/or Hepatocellular Carcinoma).
- **Pharmacoproteomics** (e.g., global drug profiling) and **Toxicoproteomics** (e.g., molecular effects of environmental tobacco smoke exposure (TSE)).
- **Development of proteomics-based technologies** for biomarker discovery, validation and translation [e.g., mass spectrometric immunoassay – MSIA and ‘Open Search for post translational modifications’ MS bioinformatics approach)

Research Support Services / Collaborations

We have established a complete pipeline for analysis of clinical samples (plasma, blood cells, tissue) using state of art proteomics-based technologies (2-DIGE, LC/MS/MS, MSIA) and Mass Spectrometry (MS) instruments (MALDI-TOF/TOF, Orbitrap) which supports all quantitative proteomics-based technologies. This pipeline is designed to disease biomarker discovery (clinical proteomics) or global drug / TSE profiling (pharmacoproteomics/toxicoproteomics) but it can be used in any proteomics-based project. We have developed an innovative “Open Search for post translation modifications” computational proteomics strategy which we have working for state of art Orbitrap MS instruments (shotgun-based proteomics). We can perform feature selection and build classification software based on large scale clinical proteomics data sets. We have also experience in several bioinformatics tools in the analysis of protein-protein interaction, cell pathway, cell-signaling in biomarker discovery and we are able to integrate all data in SQL databases and provide statistical summaries of results.

Contact Persons

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