

Development of a method for high-throughput targeted quantitative metabolomics analyses and its applications in medical systems biology

Vidya Velagapudi, Vasudev Kantae, Jean-christophe Yorke and Bhargavi Carasala

Institute for Molecular Medicine Finland, Finland

Metabolomics is a field of science, which aims at the comprehensive quantitative analysis of all the metabolites in any biological system or a specific physiological state. Quantifying broad range of targeted metabolites in a sample provides the “functional readout” of a cellular phenotype. We have developed and validated a high throughput quantitative method for targeted metabolite profiling of 94 metabolites across 15 different classes of metabolites in a single run with as much coverage of metabolites as possible. Our developed method has an ability to detect large number of polar metabolites in low and high concentrations in a single analysis. We have also optimized our method for different biological sample types, serum/plasma, tissues, cells, and *C.elegans*. This targeted metabolite profiling method has high potential for the discovery of biomarkers for the disease risk.

Biography

Vidya Velagapudi obtained her Ph.D. from the University of Saarland in collaboration with the Max-Planck Institute for Informatics, Germany and post-doc at VTT, Finland. Since 2010, Velagapudi has been acting as the Head of the Metabolomics Unit at Institute for Molecular Medicine Finland (FIMM). Velagapudi has published over 25 scientific articles in international journals and also acting as editorial board member and reviewer for the journals in the field of metabolomics.

vidya.velagapudi@fimm.fi