

Post-doctoral Researcher in Lipidomics

Position: We have an opening for an individual wishing to join a multidisciplinary project in the systems biology of severe asthma. The successful candidate will be expected to develop LC-MS/MS-based methods for oxylipin quantification in a range of biological matrices. Applicants should have a Ph.D. in mass spectrometry and/or bioanalytical chemistry, with experience in small molecule mass spectrometry as well as biological sample preparation techniques. We are especially interested in candidates with prior experience working with eicosanoids or other bioactive lipids in inflammatory systems. Experience or interest in working with bioinformatics tools for pathway reconstruction and network analysis as well as multivariate statistics is a significant merit.

Research: This project is part of the consortium U-BIOPRED (Unbiased BIOmarkers used for PREDicting disease progression and medication efficacy), which is funded by the Innovative Medicines Initiative (IMI; <http://www.imi.europa.eu>). The overall project aims are to use biomarker profiles comprised of various types of high-dimensional data, integrated with an innovative systems biology approach into distinct *phenotype handprints* that will enable improved prediction of therapeutic efficacy relative to single or clustered biomarkers of one data type towards the goal of identifying novel targets. Accordingly, this position involves the development of mass spectrometry methods for oxylipin profiling of sputum, saliva, plasma and bronchoalveolar lavage fluid (BALF) from patients with severe asthma. These fingerprint data on oxylipin levels in asthmatics will be an integral part of the global handprint. As such, studies will be performed in close collaboration with the U-BIOPRED partners enabling the successful candidate to gain direct experience in the applications of multiple omics methodologies towards a common research hypothesis.

In addition, to U-BIOPRED activities the candidate will work closely with researchers in the Center for Allergy Research at the Karolinska Institutet to examine the role of oxylipins in a range of allergy- and inflammatory-related pathologies. These efforts will involve quantifying oxylipin mediators and then integrating these results with data acquired from other platforms in combination with patient clinical metadata to create pathways of disease etiology and pathology. Results will be incorporated into relational database structures and analyzed with omics-integrating bioinformatics tools and pathway maps in collaboration with the Kyoto University Bioinformatics Center (<http://genome.jp/kegg/>). The specific long-term aims of the project are to investigate the mechanisms of chronic inflammatory diseases from a systems biology perspective, towards the goal of understanding the mechanism of disease and its subsequent resolution.

Environment: The Department of Medical Biochemistry and Biophysics (MBB) and Institute of Environmental Medicine (IMM) have a strong research tradition in bioactive lipids including awarding of the Nobel Prize. Current research efforts are focused on leukotrienes and oxylipins in general, which are important chemical mediators of inflammatory and allergic reactions.

The Karolinska Institutet is one of Europe's largest medical universities and contains commensurate resources and infrastructure. A total of 600 research groups span the full spectrum of medical disciplines and includes 2,000 researchers, 1,000 technicians, and 2,300 postgraduate students from all parts of the world who take part in both basic and clinical research.

Start date: Funding is available immediately, but the start date is negotiable. This position is initially available for 12 months, with potential renewal for an additional 24 months.

Salary: Salary includes health insurance and is negotiable depending upon applicant experience.



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Applications: Send applications, including research experience, CV and at least two references to Craig Wheelock (craig.wheelock@ki.se) or Sven-Erik Dahlén (Sven-Erik.Dahlen@ki.se). The position is open until filled, but applications should be received by January 31st for full consideration.

Further Information: For additional details of the departments and research interests:
<http://www.metabolomics.se/>
<http://ki.se/ki/jsp/polopoly.jsp?d=26736&l=en>
<http://www.mbb.ki.se>