

Absolute quantification of biomarker proteins using a cutting edge LC-MS platform

Evotec is an international CRO company of biotechnology. The Translational Proteomics and Metabolomics team, based on Toulouse Campus Curie, is specialized on biomarker discovery. To support biomarker discovery and pharmacokinetics studies, absolute quantification of proteins often need to be carried on. Mass spectrometry based methods allow a robust quantification of multiple targets in one experiment, and can be an asset when immuno-assays are not available for the targets of interest. Constant improvement of this technique is mandatory in order to stay competitive and to quantify extremely low abundant biomarkers with high precision. To this end, Evotec is looking for a motivated trainee to develop high throughput absolute quantification of proteins in clinical samples using our cutting-edge mass spectrometry platform. At first, the candidate will test different sample preparation methods applied to clinical samples. In this purpose, automated sample preparation could be developed. Then, the candidate will have the opportunity to create methods on different types of LC-MS instruments in order to target the protein biomarkers involved in several diseases and signaling pathways. Linearity and sensitivity of the assays will be compared between our different LC-MS systems, gradient and MS parameters will be optimized. Finally, biomarkers will be quantified in clinical samples. Data analysis, from method development to absolute quantification, will be performed using open source software such as Skyline and MaxQuant or in-house bioinformatics tools.

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