Job Title

Technical Leader Mass Spectrometry

Job Summary

Kinomica is a precision medicine company that is developing next-generation diagnostic tests to help clinicians prescribe the right drug, for the right patient, at the right time.

We are seeking an experienced Technical Leader in Mass Spectrometry who can spearhead the development of Kinomica’s LC-MS/MS phosphoproteomic biomarker discovery platform and resulting Laboratory Developed Tests (LDTs).

This is an exciting opportunity to work for an innovation driven and patient centric company. You will develop robust and reliable LC-MS/MS methods (e.g. targeted or data independent acquisition [DIA]) for the quantification of known phosphoproteomic predictive biomarkers to drugs that have already been investigated by Kinomica. You will also work to identify new predictive biomarkers of response to other drugs of interest. Working closely with the wet lab and bioinformatics teams you will be responsible for delivering a new precision medicine paradigm of one test, predictive of response to multiple therapies. You will also be expected to promote the methods and results of your work through high impact publications and talks at national/international conferences.

In parallel you will be developing, and at an appropriate stage implementing, a comprehensive clinical analyser (incorporating automated sample preparation, high-throughput LC-MS/MS and data analysis all on one system) on which to deliver the phosphoproteomic biomarker panels as LDTs.

Kinomica’s current LC-MS/MS capabilities include the UltiMate™ 3000 RSLCnano coupled to an Orbitrap Exploris 240 Mass Spectrometer, via an EASY-Spray analytical column. The LC-MS/MS technical operations team will initially consist of two main users – yourself and a deputy. The number and range of LC-MS/MS systems required is likely to increase as methods diversify and sample numbers increase. You will be based at Alderley Park, Cheshire; one of the UKs most recognised and vibrant centres for scientific collaboration.

The successful candidate will build and deliver a strategy to develop internal capabilities to meet the growing business needs and their technical expertise will be key to successful implementation of the technology for decision making in the clinic.

Applicants must hold a good first degree in the physical or life sciences and will ideally also hold a PhD. It is essential to have extensive hands-on experience in mass spectrometry-based proteomics including optimising and maintaining LC-MS performance and informatic pipelines, designing and applying phosphoproteomic and label-free quantitative proteomic workflows, and analysing / interpreting quantitative proteomics data to derive biological insights. The postholder will provide a substantial contribution to projects, therefore previous experience in scientific writing is essential e.g. authorships on publications or significant project reports. Excellent communication and interpersonal skills are essential including the ability to interact and collaborate effectively with colleagues. Prior working knowledge with Orbitrap and/or QTof mass spectrometers and associated nano flow liquid chromatography and informatics pipelines are essential.
Responsibilities and Duties

LC-MS/MS operations

- Accountability for maximising operational efficiency and delivering analytical excellence.
- Ensure that LC-MS/MS systems are operating well and have as little down time as possible.
- Work closely with your deputy to ensure that the LC-MS/MS system is regularly maintained and calibrated, that all buffers are properly prepared and regularly replaced, and to ensure that the proper Quality Control samples are run, and robust checks are in place.
- Outputs of all maintenance, calibrations, QC work are to be documented for reporting purposes.
- Communicate with vendor engineers to ensure that preventative maintenance checks take place and that any malfunctions are quickly and correctly resolved.
- Coordinate with management and other members of the technical team so that sample analyses are well scheduled, and projects are parallelized for time efficiency as best possible.
- Continue building and expanding on our current LC-MS/MS capabilities by helping with recruitment of new personnel and purchasing of instrumentation.

Develop the company’s LC-MS/MS clinical assays

- Build, test, optimise and compare different method types (e.g. parallel reaction monitoring [PRM], selected ion monitoring [SIM], DIA) to determine the best approach to reliably quantify multiple predictive biomarkers (i.e. the peptide ions shown to be predictive of drug response) simultaneously on our LC-MS/MS system.
- Test different flow rates and columns to increase throughput without being detrimental on sensitivity.
- Develop LC-MS/MS methods and proteomic workflows into clinical assays in the form of LDTs so that they can be run at Kinomica Laboratories and be relied upon to aid treatment decision making.
- As a mid-term goal, collaborate with vendors to package Kinomica’s proprietary KScan® workflow into a comprehensive clinical analyser that will incorporate all aspects of the KScan® workflow, including sample preparation, LC-MS/MS and data analysis, so that the analysers (containing Kinomica assays) may be rolled out and installed within hospital laboratories.

Biomarker discovery

- Perform KScan® analysis of clinical samples to identify new biomarkers for emerging drugs of interest to Kinomica and our clinician collaborators.
- Contribute by assisting with non-LC-MS/MS aspects of projects, including experimental design, sample preparation optimisation, and interpretation of data.

Promote the technology

- Keep up to date with the literature and provide innovative solutions.
- Present methods and results at internal and external meetings, including international conferences and meetings with Key Opinion Leaders.
- Contribute to marketing materials (e.g. website, tech/application notes, white papers) by finding ways to clearly communicate the advantages of KScan® / LC-MS/MS phosphoproteomics, so that clinicians trust the technology and start to use it for clinical decision making.

Qualifications, Experience and Skills

- ≥5 years of hands-on experience running/operating high-end nano-LC-MS/MS systems, particularly Thermo’s U3000 RSLCnano and Orbitraps (including hands-on experience calibrating the MS systems, basic maintenance of LC-MS/MS, renewing buffers, running QCs, interpreting data, and reporting QC outputs).
• Ideally completed a PhD and/or ≥3-year post-doc utilising/developing LC-MS/MS based proteomics technologies.
• Demonstrated ability to perform technical diagnostics and troubleshooting on mass spectrometers, HPLC systems and workflows.
• Experienced in preparing samples using proteomic workflows for LC-MS/MS analysis.
• Hands-on experience optimising, benchmarking and implementing sample preparation and LC-MS workflows.
• Experience analysing large sample sets, across multiple batches, over spaced-out periods of time.
• Experience working with multiple sample types (e.g. cell lines, PBMCs, bone marrow, solid tissue).
• Experienced interrogating LC-MS/MS raw data using vendor software (e.g. Thermo’s Xcalibur / Freestyle / Chromeleon, or Sciex’s OS), to identify and then solve potential performance issues with LC-MS/MS systems.
• Experience using software for the identification, characterisation and quantification of peptides and proteins from LC-MS/MS raw data.
• Expertise in the utilisation of LC-MS/MS proteomic technologies for the identification and validation of clinical biomarkers.
• Expertise developing clinical assays utilising LC-MS/MS proteomic technologies.
• Experienced in GLP or working in a similar regulated environment.
• Demonstrated track record of being 1st/2nd author in high impact peer reviewed publications.
• Knowledge and understanding of fundamental principles of biochemical and molecular biological systems, particularly cell signalling.
• Ability to work to timelines.
• Excellent communication skills and teamwork skills.
• Excellent organisational skills and time management skills.
• Ability to contribute to the team success.
• Demonstrated ability to plan, organise, prioritise and execute work effectively.
• Experience training, managing and developing junior staff.
• Experience managing vendor relationships and maximising operational uptime of equipment.
• Proactive, analytical and solution-oriented approach to identifying and resolving issues.

Please send CV and cover letter to:

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