

Research Engineer in Cell-free production of Therapeutics mAbs for NMR studies

Contract from March 1st 2023 to July 31st 2024
funded by University Grenoble Alpes
Institut de Biologie Structurale - Grenoble (FR)

Monoclonal antibodies (mAbs) have become the fastest growing class of therapeutics owing to their beneficial impacts in treating many life-threatening diseases. Development of protein pharmaceuticals (biologics) is challenging and requires overcoming various manufacturing hurdles such as purity, stability and structure characterization of the product. The 3D structure is unique to biologics and is directly related to their function. This is a key parameter to be assessed when evaluating the robustness of pharmaceutical bioproduction. Fragmentation and chemical modifications routinely encountered during production and long-term storage of mAbs, can potentially affect structure and alter therapeutics activities. The biophysical toolbox currently available (FT-IR, intrinsic fluorescence, DSC, CD) for the characterization of therapeutical mAbs in development does not have sufficient resolution to demonstrate subtle changes in mAb structure which nevertheless impact potency.

In collaboration with Sanofi, the IBS NMR group is developing innovative tools for therapeutical mAbs characterization based on the efficient and complementary NMR-based and advanced isotopic labeling methods. The consortium is seeking to reinforce the team and is recruiting a research engineer who will be in charge of the development, optimization and application of cell-free approaches for the large scale production of isotopically labelled Fab domains of therapeutic mAbs for NMR investigations. The engineer will be integrated in a dynamic team including a PhD and a post-doc., staff engineers and researchers from IBS and Sanofi partners, and he/she will participate in the common management tasks of the group's biochemistry laboratory. The applicants should have skills in protein biochemistry, large scale expression and purification of proteins for structural biology projects.

Context: The IBS is a research unit affiliated with the University Grenoble-Alpes, the CNRS and the CEA. It currently employs 280 people, including many students and post-docs from different countries. It has efficient and internationally competitive facilities in molecular and cellular biology, biochemistry, biophysics and structural biology. Within the IBS, the engineer will be integrated into the Biomolecular NMR group with 20 members. He/she will interact mainly on the project with Jerome Boisbouvier/Lionel Imbert (IBS) and O. Frances/C. Doyen (Sanofi).

Application: Candidates should hold an Engineer degree in Biology/Biochemistry/Chemistry + 3 years of experience in protein biochemistry or a PhD in Biology/Biochemistry/Structural Biology. Interested candidates should send a CV with a publication list, a cover letter and the names and emails of two references. These documents must be submitted via email to jerome.boisbouvier@ibs.fr before January 22nd 2023. The preselected candidates will be contacted to be interviewed end of January and the expected starting date is March/April 2023.