Post-doc Offer (18 months)

Title : New Antibody's format: strategies to evaluate their aggregation propensity for better developability

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This postdoc is part of the large project ACCREDIA bringing together a network of industrial and academic partners funded by the French government aiming at improving the knowledge, skill, and methodologies in antibody developability.

The project's ambition is to create new antibody formats adapted to different routes of administration, in particular, the inhalation one, combining high-throughput antibody screening and engineering, *in vitro* and *in vivo* biological activity assessments. To achieve this goal, the immunogenicity of these new format antibodies, mainly due to immunogenic sequences or the formation of aggregates will be also investigated. The aim of the recruited post-doc is ; (i) to develop analytical strategies to characterize and understand the aggregation process and predict antibody sequence features that make an antibody a good candidate in terms of immunogenicity and (ii) to provide bioanalytical tools to monitor degradation/aggregation propensity of these new format antibodies according to the delivery route (lung, nasal…) and their formulation.

New mAbs of different formats (Multispecific, ADC, …) will be produced by our partners using inovative engineering processes. Their degradation/aggregation pathways (under different stresses) will be thoroughly investigated (sub-unit involved,….). The impact of the formulations allowing the different routes of administration will also be evaluated. Different orthogonal analytical methods (preparative techniques e.g. FPLC, separation ones like HPLC, SEC, capillary electrophoresis eventually coupled to MS and, Taylor Dispersion Analysis) and spectroscopic ones (e.g. Circular dichroism, DLS, NTA…) will be developed for these purposes. The impact of the degraded forms on innate immunity cells will also be investigated in-vitro in close collaboration with the consortium partners.

Laboratory: Institut Galien Paris Saclay (IGPS), UMR CNRS 8612, PNAS team; Henry Moissan building, 17 avenue des sciences, 91400 Orsay (https://www.umr-cnrs8612.universite-paris-saclay.fr/)

IGPS is an interdisciplinary research institute and is considered as one of the main actors in Europe in the field of nanomedicine and gathers analytical and physico-chemists as well as biologists and pharmacologists. PNAS team has a strong background in protein and peptide analysis. IGPS benefits from the strong presence of national research organizations, numerous state-of-the-art facilities, and scientific platforms of the Paris-Saclay University.

Starting date: October/November 2023, 18 months (extension might be possible)

Financial support: PEPR contract 2023-2026 (ACCREDIA)

Candidate profile: PhD, Analytical chemist interested by cell biology and Immunology. knowledge on mAbs/proteins analysis.

To apply: send CV, cover letter and one or two references to claire.smadja@universite-paris-saclay.fr and myriam.taverna@universite-paris-saclay.fr

Salary (gross) : ranging from 2889,51 to 4082,90 € per month depending on experience