APPLIED BIOMIMETIC

About Applied Biomimetic (AB)

Applied Biomimetic Inc. (www.appliedbiomimetic.com)

Applied Biomimetic is a leader in the convergence of polymer and protein membrane technology. We have developed a high-performance membrane platform for water, life science, industrial biotech, food, and dairy separation applications.

Nature's ability to separate chemical elements at the molecular level with the use of highly specialized proteins in the channels of cell walls was the subject of a 2003 Nobel Prize in Chemistry. AB has developed advanced capabilities in the expression, purification, and production scale-up of porins from biological sources methods. When these proteins are embedded it into a robust polymer structure, this achieves a unique membrane performance profile.

Our core technology is based on new chemistry and manufacturing methods to achieve highly permeable membrane material with narrow molecular size exclusion cut-off. By adding an active protein layer, the membranes will separate constituents at the ion level.

AB is focusing on the development of a wide range of applications for its patented technology. The aim is to provide disruptive solutions for the water treatment, health, food, and other industries enabling these industries to enhance their products, reduce costs, and save energy. The membranes are designed to withstand challenging and sometimes harsh environment in various industrial applications.

The company started-up its own manufacturing facility in 2019 to produce an ultrafiltration product that was originally developed in 2016 as a support substrate for a biomimetic membrane but has been successfully supplied in the food, dairy, and industrial bio-tech markets. The UF element product is currently in use at several sites in a live production environment in the US, Europe, and Asia Pacific, and it helps customer achieve high efficiency molecular separation in these "high value" fluid streams.

About the Role

As part of its expansion, AB is adding a new role of Research Associate II at the Gaithersburg site. This is an opportunity to join a growing organization and be part of a dedicated and innovative team.

Work Location

AB's main office is in Gaithersburg, Maryland. This position is in the Gaithersburg office.

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JOB DESCRIPTION

Job Title: Research Associate II
Department/Job ID: Protein Chemistry and Engineering
Reports To: Senior Scientist, Protein Development
Direct Reports (if any): N/A

Job Overview: The Research Associate II within the protein group is responsible for different aspects of integral membrane protein design, expression, and purification for downstream QC incorporation studies with liposomes and polymersomes. The candidate will collaboratively work with the Sr. Scientist and other team members within the protein and polymer groups and will be responsible for aiding the implementation of R&D project plans and meeting milestones on key deliverables.

Role: Protein design, expression, and purification for downstream Liposome and Polymersome QC:

- Prepare new SOPs or use established SOPs to independently carry out membrane protein expression and purification for downstream biochemical and biophysical analysis
- Propose, plan, conduct and present new research by collecting and analyzing new scientific data while simultaneously coordinating research projects across teams
- Perform pilot / microscale scouting experiments of new cell lines and optimize expression conditions to increase protein yield with downstream processes in mind
- Use molecular biology / cloning techniques to design protein constructs which result in efficient purification schemes of membrane proteins
- Use established SOP to independently carry out small- and large-scale fermentation of bacterial cells for Integral membrane protein expression and purification (under the supervision of the Senior Scientist) for downstream biochemical and biophysical analysis
- Provide support to Sr. Scientist in structural biology efforts to decipher protein structure in High resolution
- Prepare necessary raw materials in laboratory processes e.g., buffers, solvents, media, etc.
- Perform QC tests of integral membrane proteins in liposomes, polymersomes & chimerasomes
- Perform robust data analysis of data from lab experiments and being responsible for documentation and reporting of technical progress and results in detail
- Be accountable for project deliverables and communicate status and other related information to management and project team members
- Be focused on details and efficiency in the laboratory as well as having an interdisciplinary approach to the tasks at hand while exercising good laboratory practice.
- Collaboratively work with team members within the Protein group and from other groups within the R&D division to provide research plans, perform and analyze additional experiments, and present the results to the department and / or the R&D team.
- Participate in the general upkeep and maintenance of the laboratory facilities and equipment according to OSHA standards

Requirements:

- BS/MS (graduate degree preferred) degree in Life Sciences, e.g., Biochemistry, Biophysics, or Molecular Biophysics
- Minimum of 3-4 years of experience working in an industrial bio-technology research laboratory (preferred) or academia on integral membrane protein expression and purification for downstream activities
- Knowledge and experience with integral membrane protein expression systems and aseptic techniques

- Experience with a wide range of analytical tools and techniques for use in laboratory, incl. FPLC, HPLC, Stopped-Flow, DLS, microscopy, etc.
- Experience with large scale bacterial fermentation is required
- Knowledge of fitting software and other advanced software packages such as Origin, MATLAB etc.
- Excellent analytical skills
- Strong communication and teamwork skills
- Ability to work independently and proactively in a fast-paced and collaborative environment
- Self-motivated and able to handle multiple challenging targets with flexibility in adjusting priorities for project support
- Ability to thrive in a fast-paced environment, work short cycle times and flexible hours if required, and deliver results under pressure
- US work permit

Additional Qualifications:

- Familiarity with protein structural biology would be a plus
- Ability to build homology models of integral membrane proteins would be a plus
- A natural curiosity and interest in new technology and groundbreaking scientific developments
- Good general IT-skills, including knowledge of MS Office 365 - SharePoint and other standard software packages