Job Description

Post Doc - Discovery Science (Structural Biology & Biophysics)

Reference Number	602748	**Company**	AstraZeneca
Date Added	Last week	**Country**	United States
Category	Research and Non-Clinical Develo...	**Location**	Massachusetts (Waltham)

Title: Generation of Stable Protein:DNA Complexes for Use in Screening and Structure Determination

Post Doc Location: AstraZeneca Boston R&D Laboratories, 35 Gatehouse Drive, Waltham MA, 02451

Principal Supervisors:
AZ: Steven Kazmirski, PhD, Principal Scientist, Discovery Sciences
External: PhD, Professor of Biochemistry, Biophysics and Structural Biology, University of California Berkeley, http://berger.berkeley.edu

Description of Opportunity: A position is available for a protein biophysicist to join the Discovery Sciences Department at AstraZeneca Pharmaceuticals in Waltham MA to work on Protein:DNA complexes. This is a collaborative effort with the laboratory of Prof. James Berger at the University of California Berkeley to generate stable disulfide cross-linked protein:DNA complexes on potential anti-bacterial and anti-cancer drug targets through FASTDXL screening. Success in generating stable complexes will result in the opportunity to perform affinity screening with small molecules on the complexes and structure determination through protein crystallography.

This position provides an opportunity to explore the complete processes of gene-to-screening and gene-to-structure. The successful applicant will be involved with many different aspects of Lead Generation from Target Selection to Hit Generation to Structural Biology and will have the opportunity to interact with many fellow scientists in a cross disciplinary environment. The successful applicant will be expected to deliver his/her novel research results within AstraZeneca via global working groups and externally via meetings and through publications.

The role's major responsibilities
* Develop within AstraZeneca, the ability to generate stable cross-linked protein:DNA complexes using the FASTDXL method.
* Utilize Biacore or other biophysical techniques to screen protein:DNA complexes against small molecule libraries and be able to validate potential hits.
* Use X-ray crystallography to solve the three dimensional structure of protein:DNA complexes to determine the binding modes of hits.
* Interface with scientists across many disciplines while at the same time being able to work independently.
* Communicate results within AstraZeneca via global working groups.
* Work collaboratively with other experts within the Discovery Sciences, Infection and Oncology Departments.
* Present results at scientific meetings and conferences.
* Publish scientific papers describing the results of the work.

Minimum experience
A PhD in one or more of the following areas:
* Biochemistry with expertise in molecular biology and protein purification.
* Protein Biophysics
* Structural biology

Preferred experience/requirements
* Molecular biology and protein purification skills that will allow the candidate to produce high quality purified protein independently.
* Experience with mass spectrometry of macromolecules (protein, DNA, RNA).
* Experience synthesizing and working with DNA oligomers.
* Familiarity with some of the following: Chromatography, Enzyme Assays, Binding Assays, Biacore, or X-ray Crystallography.

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