



## Senior Structural Biologist: Protein Crystallography

Helix BioStructures, LLC (HBS) is a contract research organization based in Indianapolis, Indiana, providing early drug discovery services to the biopharmaceutical industry. HBS maintains a full suite of services that encompass protein production and purification, chemical & structural analysis, and computational modeling & design. Founded in 2018 HBS, has grown considerably and is currently looking to expand with the aid of an experienced Structural Biologist with extensive knowledge of protein production and crystallographic techniques.

### Main Responsibilities

This scientist will be a project lead handling two to three gene to structure and/or crystallographic projects monthly. They will be responsible for producing high-quality protein reagents to support structure-based drug discovery. A proven track record in optimizing the expression and purification of challenging proteins is essential. These protein efforts will include related crystallographic work, troubleshooting crystal formation, and optimization conditions culminating in functional and structural determination. The scientist will also be responsible for staying up to date on current state-of-the-art methods to accelerate and further develop additional technical and analytical services of the company, e.g., Cryo-EM.

Highly desirable hands-on experiences include:

- (a) Experience with a wide range of different protein classes from expression strain development, through purification and include troubleshooting difficult protein targets
- (b) Biochemical and biophysical analysis of purified proteins
- (c) Significant protein crystallization expertise with subsequent structural characterization from raw or refined X-ray data sets to fully refined, PDB quality, protein structure models.
- (c) No participation in X-ray data collection activities is expected.

In addition to expertise in protein biochemistry, this scientist will employ a range of experimental methods (biochemical, biophysical and/or computational) to support structure-based drug design, antibody discovery, and/or protein engineering through high-resolution structural analyses. Accordingly, proficiency in X-ray crystallography and/or cryo-EM methods and a passion to explore the structural basis of protein-protein and protein-ligand interactions is essential. The successful candidate will be a technical expert who can lead from the bench as well as through collaboration with colleagues on multiple projects, in parallel. Overall, you will be an integral structural biologist and team collaborator who will have a significant impact on our company and the many companies we support. Moreover, you will have the opportunity to help expand Helix's technical offerings and drive our growth.



A STRUCTURAL SERVICES COMPANY  
BUILT TO ATOMIC RESOLUTION

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Indianapolis, IN 46202



## Additional Responsibilities

- Use industrial software license to perform structure solution & refinement, either by Molecular Replacement or de-no
- Document experimental data & communicate research priority, progress, & results with clients & project teams
- Provide technical & scientific guidance to Helix's clientele or other members of the Structural Biology group
- The candidate will be responsible for completing projects independently and as part of a team and will be responsible for timely updates of the project progress to their supervisor both informally and by formal report writing

## Required Qualifications

- Ph.D. in biochemistry, biophysics, protein engineering, and/or structural biology with experience on multiple challenging protein targets. Productive postdoctoral training and/or industry experience is expected and should be reflected in an established track-record of high impact publications.
- Demonstrated competency in protein expression and purification strategies using bacterial, insect, yeast and/or mammalian hosts.
- Extensive experience in protein X-ray crystallography from protein sample assessment, crystallization, optimization, data processing, to structure determination and refinement.
- Experience with software for model building & refinement such as Phenix, XDS, CCP4, ShelX, Chimera, Rosetta, Coot & other commonly used structural biology software packages
- Experience with crystallization robot and standard analytical techniques associated with assessing protein quality during the purification process.
- Strong written and oral communication skills.
- Experience level: 3-7 years post Ph.D.

## Additional "nice to have" qualifications

- Hands-on experience engineering and optimizing the production of challenging protein targets for structural and functional studies
- Ability to generate and characterize milligram quantities of high-quality protein reagents
- Experience with protein engineering and/or design approaches
- Experience with Cryo-EM sample preparation
- Analysis, design, and/or computational approaches to investigate ligand-protein complexes
- Excellent communication, interpersonal and organizational skills



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- Fearless attitude to tackle longstanding difficult problems

### **Organizational Relationship**

This position is full-time and based in Indianapolis, Indiana. Interaction with external service vendors is also expected.

### **Physical/Mental Requirements**

- Able to lift 50lb objects
- Able to visualize microscopic objects under microscopes.

### **Visa Status**

Candidates must be legally permitted to work in and be citizens (or green card holders) of the United States.

### **Other job details**

- Eligible for Relocation Package
- Competitive Salary and annual bonus
- Retirement (IRA/401K)
- Health/Dental/Vision Insurance
- PTO

Helix BioStructures, LLC is an equal opportunity employer, and we embrace the increasingly diverse world around us. Helix BioStructures, LLC prohibits unlawful discrimination based on race, color, religion, gender, sexual orientation, gender identity or expression, national origin or ancestry, age, disability, marital status, and veteran status.

Helix BioStructures, LLC requires all new hires to be fully vaccinated against COVID-19 as of their start date. This requirement is a condition of employment at Helix BioStructures, LLC, and it applies regardless of whether the position is located at a Helix BioStructures, LLC headquarters or is fully remote. If you are unable to receive the vaccine due to a disability or serious medical condition, or because it is prohibited because of sincerely held religious beliefs, you will have an opportunity to request a reasonable accommodation.

**All interested candidates, please send your resume/CV to [info@helixbiostructures.com](mailto:info@helixbiostructures.com).**



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