Master Thesis for targeted protein degradation project

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Background:
Protein modification by the small protein ubiquitin regulates nearly all aspects of eukaryotic biology. A particular type of modification, where proteins are decorated by "chains" of ubiquitin proteins covalently linked to each other, direct proteins for degradation by the proteasome. Defects in ubiquitin pathways are associated with diseases such as cancer, neurodegenerative disorders and viral infections. On the other hand, we can now harness the power of targeting protein degradation, by using small molecules to degrade disease causing proteins. Targeted protein degradation is an exciting emerging area of drug development, yet the structural mechanisms of marking targeted proteins with ubiquitin remains unknown. The laboratory uses a combination of structural, cell and chemical biology, as well as biochemistry to mechanistically characterize native and drug-induced complexes in the ubiquitin-proteasome pathway.

Goal of the project:
Biochemical and structural characterization of targeted protein degradation mechanisms.

Requirements:
- General knowledge in biochemistry and molecular biology
- Ability to work in a team
- Dedication and motivation to solve important and difficult scientific questions
- Basic knowledge and experience in protein expression and purification

We offer:
- Learning of cutting-edge structural biology (cryo-EM, crystallography)
- Learning of biochemical assay development
- Participation in an interesting project
- Working at the forefront of ubiquitin field
- Excellent scientific environment
- Working with an international team of talented scientists

Application:
Please send your resumes and transcript of records on: liwocha@biochem.mpg.de

https://www.biochem.mpg.de/schulman