PhD student position

Molecular basis of substrate recognition by histone deacetylases (HDACs)

Summary: Protein acetylation has emerged as a key regulatory mechanism of fundamental cellular processes in all living organisms. However, there is a limited understanding of structural and functional features of the enzymatic machinery (histone acetyltransferase and histone deacetylases) implicated in these processes. Histone deacetylase 6 (HDAC6) is a unique member of the HDAC family and is an attractive target for therapeutic interventions in cancers and neuropathologies. Several HDAC6 substrates have been identified up to date, yet our understanding of HDAC6 cellular functions is quite limited.

Project: The project focuses on unraveling the molecular basis of the substrate recognition by HDAC6. We have successfully established a methodology for heterologous production of HDAC6 variants in a mammalian expression system. A set of molecular biochemical and biophysical approaches will be harnessed to define general principles governing substrate recognition by HDAC6.

Job description: We are seeking a highly motivated PhD candidate to join our research team investigating a structure and function of human HDAC6 and related enzymes. We are using methods of molecular biology (cloning, mutagenesis, heterologous expression), biochemistry (protein purification, enzymatic assays), and biophysics (surface plasmon resonance, thermophoresis, X-ray crystallography, electron microscopy) to unravel fundamental molecular characteristics of HDAC6 and related deacetylases.

Qualifications: Applicants should have a solid background in molecular biology and biochemistry or cell biology. We expect good communication skills, analytical thinking and the ability for teamwork. The successful candidate will participate in a PhD program at Charles University in Prague. The starting date is summer/fall 2016.

How to Apply: For more information please contact Cyril Bařinka (**cyril.barinka@ibt.cas.cz**) directly.

Cyril Barinka, PhD
Laboratory of Structural Biology
BIOCEV, Centre of Excellence
25242 Vestec u Prahy
http://academy5.avcr.cz/lsb/