The Oliveira Mann Lab at the Institute of Virology, Technical University Munich is looking for a highly motivated and skilled

PhD Student
to reveal the molecular functions of NTases in antiviral immunity

We apply protein-nucleic acid biochemistry, structural biology using x-ray crystallography and single-particle cryo-electron microscopy combined with cellular assays and small molecule mass spectrometry to identify and study Nucleotidyltransferases (NTase), their ligands and nucleotide-based products. NTases respond to various environmental stimuli by, for example, synthesizing cyclic nucleotide second messengers that are central to downstream signalling events from bacteria to humans. One key example is the cyclic GMP-AMP synthase (cGAS), which binds to pathogenic dsDNA during infection and synthesizes the second messenger cyclic GMP–AMP (cGAMP) leading a potent immune response. Several subfamilies of uncharacterized human NTases and their products remain to be discovered, despite their importance in biological processes ranging from immunity to development. Consistent with this, patient mutations in NTase family members result in extreme phenotypes and are associated with rare genetic diseases and cancer. Our work will be critical in revealing the molecular mechanism causing these diseases and developing novel therapeutic strategies using nucleotide-based second messengers as drugs. Our goal is to elucidate the molecular functions and enzymatic mechanisms of uncharacterized NTases, including the principles behind their activation and nucleotide-based second messenger signalling.

Your Profile

You are an enthusiastic, open-minded candidate interested in antiviral immunity and enzymatic mechanisms. You have an M.Sc. or equivalent degree in life sciences. Previous experience in biochemistry, immunology, or virology is an advantage but not required. You can start as soon as possible.

About us

The NTase Lab at TUM is a small and young independent group located at the Klinikum Rechts der Isar (MRI) in Munich, Germany. As part of the Institute of Virology, we profit from close collaborations with the Translational Cancer Research Center (TranslaTUM) and the Institute of Molecular Immunology. We are a highly interdisciplinary and collaborative team combining structural biology with state-of-the-art methods from the fields of innate immunity & virology, including access to the BSL3 laboratory.

How to apply

Your application should include a CV, letter of motivation and contact information for two references. Please send your application to Dr Carina de Oliveira Mann: mann@genzentrum.lmu.de. For more information about our lab at the TUM Institute of Virology and our research, please visit https://web.med.tum.de/en/virologie/research-groups-tum/carina-oliveira-mann/. This position is open immediately until a suitable candidate has been found.