

**M1-Molecular and Cellular Biology (MCB)
Internship Proposal Form
Chemistry-Biology Department**

(Deadline Friday 15th December 2023)

Laboratory Address and Affiliation:

IBS
71 avenue des Martyrs 38044 Grenoble cedex 9
UMR5075 CNRS-CEA-UGA

Laboratory/Team Research area (Keyword)

MEMBRANE/Moreau Team
Ion channels, protein engineering, electrophysiology, molecular biology

Summary of the Proposed Internship Project (10 lines)

Title: Functional characterization of an optimized ion channel for structure determination

DESCRIPTION:

The objective of the internship is to subclone and design the coding sequences of an ion channel, that has been optimized for its structure determination by electron microscopy. This ion channel has been discovered by collaborators at the GIN institute as a target in the early stage of the Alzheimer disease. Therefore, it constitutes a promising target for therapeutic developments. The engineered ion channel will be functionally characterized by automated electrophysiological techniques using xenopus oocytes as heterologous expression system. The team has all expertise and materials for molecular biology and electrophysiology experiments with exceptional access to 3 electrophysiological robots. The trainee will be co-supervised by an engineer-assistant and a PhD student.

Methodologies and/or Techniques to be used

Molecular biology: PCR, bacterial transformation, plasmid purification, in vitro mRNA synthesis
Micro-injection of mRNA in xenopus oocytes
Automated electrophysiological recordings (HiClamp robots)

Person to contact:

Name: Moreau Christophe
Phone: 04 57 42 85 79
E-mail: Christophe.moreau@ibs.fr

Additional information

Please send your CV and references to christophe.moreau(at)ibs.fr, indicating M1 2024 in the title.