INSERM/UEVE UMR 861, I-STEM, AFM

CECS/ISTEM 28 rue Henri Desbruères
91100 Corbeil-Essonnes Cedex - France

Tél. : +33 (0)1 69 90 85 28 | Fax : +33 (0)1 69 90 85 21 | cmonville@istem.fr

Job offer: postdoctoral fellowship

Relationship defects between the retinal pigment epithelium (RPE) and the choroidal vascular cells (choriocapillaris) are a crucial factor in retinopathies development leading to vision loss, such as hereditary retinal dystrophies, and atrophic age-related macular degeneration (AMD). There are no effective treatments currently available for these diseases. In addition, there are still no good animal or human cell models capable of recapitulating all the clinical features of these diseases.
Our project aims to develop a 3D model of Blood Retinal Barrier (BRB) by deriving RPE and choroidal cells from human pluripotent stem cells (hPSCs) on a biodegradable membrane with adequate physicochemical and mechanical properties to mimic BRB. This 3D cell model can then be used in disease modelling to find new pharmacological treatments and for cell therapy approaches for retinal diseases.

Missions

In the context of an FRM (Fondation pour la Recherche Médicale) funding, ISTEM recruits a post-doctoral fellow who will be in charge of the development of a new 3D co-culture model using pluripotent stem cells to mimic the blood-retinal barrier. The project is the result of a collaboration with the Centre d'Etude des Cellules Souche (CECS)/I-Stem), the "Laboratoire de Recherche Vasculaire Translationnelle" (Dr. Didier Letourneur) and the "Institut de la Vision" (Dr. Olivier Goureau).

Activities

Design a differentiation protocol to obtain choriocapillaris from human embryonic stem cells.
Develop and characterize a 3D RPE-Choriocapillaris co-culture model.
Presentation of results at international conferences. Valorization of results in the form of scientific reports or publications.

Skills & Knowledge

A PhD in a bio-medical discipline.
Expertise in cell culture and differentiation of human pluripotent stem cells could be a plus.
Knowledge of endothelial cell biology.
Skills in microscopy, Real-time qPCR, ELISA, flow cytometry.
Desired qualities: teamwork, autonomy, ability to learn new technologies and presentation of results.

Working context

I-Stem is the largest French research and development institute dedicated to human pluripotent stem cells, of embryonic origin or obtained by genome reprogramming. I-Stem is part of the Biotherapy Institute for Rare Diseases, funded directly by the AFM-Telethon (www.istem.eu).

Informations

Location : Corbeil-Essonnes (91, France)
Work type : Post-doctoral fellowship
Term of the contract : 36 months
INSERM contract
Start date : 1st of June 2023

Contacts

Christelle MONVILLE (cmonville@istem.fr)
Walter HABELER (whabeler@istem.fr)