



**A European training network for the discovery of neurotrophins
small molecule mimetics as candidate therapeutic agents for
neurodegeneration and neuroinflammation
(EuroNeurotrophin)**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765704



**PhD student - Early Stage Researcher (ESR8)
Evaluation of small molecule neurotrophin mimetics in models of
neurodegeneration and neuroinflammation**

EuroNeurotrophin Overview

EuroNeurotrophin will be the first European consortium to study small molecule neurotrophin mimetics (synthetic or natural) in depth, use them as molecular probes to interrogate neurotrophins, and emphasise their clinical translation.

Neurodegenerative diseases (ND), like Alzheimer's disease, Parkinson's disease, Multiple Sclerosis and motor neuron disease, are on the rise worldwide. Preclinical studies point to the therapeutic potential of neurotrophins in preventing or slowing the progression of ND. The key idea behind this project is to address the major limitations of neurotrophins by developing novel **small molecule, neurotrophin mimetics** with favourable profiles of stability, tissue penetration and targeted biological actions.

EuroNeurotrophin meets the emerging need for training young researchers in drug discovery and development with a focus on the design, synthesis and isolation of new neuroprotective small molecule neurotrophin mimetics and their assessment using multimodal approaches, as well as their use towards market applications.

Host Institution



The department of Clinical Pathobiochemistry, Faculty of Medicine, Technische Universität Dresden (TUD), is situated in the Medical Theoretical Center, a research institute carrying multidisciplinary research in medical sciences. Focus of its research is the study of innate immune responses in several diseases, such as metabolic disease or neurodegenerative diseases.

Dr Vasileia-Ismini Alexaki, Junior Group Leader with 13 years research experience in molecular endocrinology. Author of 41 publications.

Description of tasks for the position

The aim of this project will be to test small molecule mimetics of neurotrophins in vitro and in vivo in different mouse models of neurodegeneration and neuroinflammation. Specific aims of this project will be the following:

- Investigation of the anti-inflammatory effects and the mechanism of action of neurotrophin mimetics in microglia and astrocytes.
- Tracking of brain uptake of fluorescently labelled neurotrophin mimetics of neurotrophins.

- The potency of selected new small molecule mimetics will be evaluated in the cuprizone-induced MS mouse model and in the 5xFAD Alzheimer's mouse model.

Requirements

- Applicants must hold a MSc or equivalent in the field of biomedical or pharmaceutical sciences.
- Applicants can be of any nationality.
- Applicants must have a very good knowledge (written and oral) of the English language.
- **H2020 MSCA Mobility Rule:** researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of the host organisation for more than 12 months in the 3 years immediately before the recruitment date. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status are not taken into account.
- **H2020 MSCA eligibility criteria:** Early Stage Researchers (ESRs) must, at the date of recruitment by the host organisation, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. Full-Time Equivalent Research Experience is measured from the date when the researcher obtained the degree entitling him/her to embark on a doctorate (either in the country in which the degree was obtained or in the country in which the researcher is recruited, even if a doctorate was never started or envisaged).

Benefits

- ✓ The position is full-time with a 12 month duration renewable to 36 months.
- ✓ A very attractive salary plus allowances package according to the allowance amounts defined in the rules for Early Stage Researchers (ESRs) EU Marie Skłodowska-Curie Actions Innovative Training Networks (ITN) (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-msca_en.pdf)
- ✓ Network-wide specialised training and training in transferable/technical skills.
- ✓ Local specialist training provided by the host institution.
- ✓ Intersectoral and interdisciplinary secondments within the EuroNeurotrophin network.
- ✓ International exposure through participation in scientific conferences.

Application

The application form can be downloaded from our website (www.euroneurotrophin.eu). Interested candidates for the position should submit the completed application form along with their cv, motivation letter, copies of publications and/or thesis (if available) and scans of transcripts to the following emails:

Ismini.Alexaki@uniklinikum-dresden.de and info@euroneurotrophin.eu

IMPORTANT: Please also arrange for two recommendation letters to be submitted by email to

Ismini.Alexaki@uniklinikum-dresden.de and info@euroneurotrophin.eu

Additional Information

For additional information about the research project and this individual position, please contact:

Dr Dr Vasileia-Ismini Alexaki. Email: Ismini.Alexaki@uniklinikum-dresden.de