



BioTechMed-Graz is a cooperative initiative between the University of Graz, the Medical University of Graz and the Graz University of Technology at the interface of basic biomedical research, technological developments and medical applications with the goal of conducting joint health research.

Within the cooperative project BioTechMed-Graz, the three partner universities are pursuing the goal of joining the forces of their existing competences within the four major research areas of 'Molecular Biomedicine', 'Neurosciences', 'Pharmaceutical and Medical Technologies' and 'Quantitative Biomedicine and Modelling' through the establishment of a joint cooperative platform.

BioTechMed-Graz is – besides other projects – focusing on the Postdoc-Pool, which aims at promoting young scientists with international background and integrating them in the framework of BioTechMed-Graz in order to support innovative research in Graz.

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For the project

***“Neuroprotective effects and mechanisms of spermidine treatment in different models of Alzheimer’s disease”*** the [Institute of Molecular Biosciences](#) at the University of Graz is seeking to appoint a

### **Postdoc**

(fixed-term employment for the period of 2 years; position to be filled as of now)

#### **Contact person**

Univ.-Prof. Dr. Frank Madeo, Institute of Molecular Biosciences, University of Graz,  
E-mail: [frank.madeo@uni-graz.at](mailto:frank.madeo@uni-graz.at), Phone: +43 (0)316 380 - 8878

#### **Research partner**

Rudolf Stollberger, Univ.-Prof. Dipl.-Ing. Dr., Institute of Medical Engineering, Graz University of Technology

#### **Research topics**

Alzheimer’s disease (AD), a neurodegenerative disorder and the most common cause of dementia worldwide, is characterized by extracellular accumulation of amyloid- $\beta$  42 peptide in senile plaques. The clearance of these deposits is critical for the maintenance of neuronal function – and can be achieved e.g. by autophagy, a highly regulated and conserved lysosomal degradation pathway. Recent studies revealed that several metabolites, such as the polyamine spermidine, exert potential (neuro-)protective effects by enhancing autophagic mechanisms.

We propose that spermidine administration can successfully impede age- and disease-associated decline in neuronal function and structure in mouse as well as fly models of AD. Subsidiary to conventional biochemical and immunohistochemical (IHC) *post mortem* methods to characterize AD pathology in transgenic mice, we will use magnetic resonance imaging (MRI) as an innovative technique for *in vivo* analyses. Parallel studies in the fruit fly *D. melanogaster* will help us to distinguish correlative and causative changes upon ageing and age-associated neurodegeneration.

#### **Professional qualifications**

Applicants should have a PhD degree in molecular biology, microbiology, biochemistry or related fields. A successful candidate will have experience with at least two different model organisms, particularly *D. melanogaster*, *M. musculus*, and/or *S. cerevisiae*. The project requires planning and practical experience with animal models of aging, including the characterization of neurological and age-associated parameters as well as small animal magnetic resonance imaging. The successful candidate will actively support the launch of a fly lab focused on aging including establishment of infrastructure and methodology. International research experience in the relevant field as well as English and German competence (equivalent to level C1 or higher) are required. Publications in international scientific journals in a relevant field of aging research, preferably with a focus on

neurodegeneration, cell death or autophagy as well as experience with supporting grant applications and acquisition of project-related funding are desirable.

**Personal profile**

- Communicative and organizational skills
- Responsible attitude, reliability
- Ability and interest to work in an interdisciplinary team
- High level of motivation, outstanding commitment and goal orientation

The minimum salary as stated in the collective agreement for universities and according to the classification scheme (B1) is EUR 3,483.30 gross/month (Postdoc).

Application Deadline: **October 21, 2014**

Applicants should send a single PDF file including 1) a full CV, 2) brief statement of past achievements, and 3) names and contact details of three references to: frank.madeo@uni-graz.at.

Karl-Franzens-Universität Graz  
Institut für Molekulare Biowissenschaften  
Humboldtstraße 50  
8010 Graz

If you have any questions, please contact Univ.-Prof. Dr. Frank Madeo, Institute of Molecular Biosciences, E-mail: frank.madeo@uni-graz.at, Phone: +43 (0)316 380 – 8878.

Further information can be found at [www.biotechmedgraz.at](http://www.biotechmedgraz.at)