FARM-ID
Associação da Faculdade de Farmácia
para a Investigação e Desenvolvimento

Faculty of Pharmacy Research and Development Association
Call for the award of 1 (one) Research Grant (Bolsa de Investigação)

Notice No. BI/15/FARM-ID/2022

Under the Regulation of Research Grants of the Foundation for Science and Technology, IP, Regulation No. 950/2019, published in *Diário da República*, 2nd Series, No. 241, of December 16, 2019, of the Regulation of Research Grants of the University of Lisbon, Dispatch No. 6238/2020, of 12 June, published in *Diário da República*, 2nd Series, no. 113, of 12 June 2020, and of the Statute of the Research Fellowship (EBI), Decree-Law no. 123/2019, of 28 August, published in the *Diário da República*, 1st Series, no. 164, of 28 August 2019, it is made known that a call for the award of 1 (one) Research Grant within the scope of the project EXPL/BIA-BQM/0793/2021, titled *"Redox-signaling modulation of Mitochondrial Dysfunction through post-translational modifications"*, funded by Fundação para a Ciência e a Tecnologia, I.P., is open under the following conditions:

I. Scientific Area: Translational Biopharmaceutical Sciences, or related areas

II. Admission Requirements:
- Master degree in Biopharmaceutical Sciences, or related areas;
- Be enrolled in a non-conferring academic degree course*;
- Present a proposal for the Work Plan to be developed.

*If the candidates do not yet possess the supporting documents referring to the enrolment in a non-conferring academic degree course, in the application step, these can be temporarily substituted by a declaration on honour. The proof of the enrolment must be carried out until the date of contract signature, under consequence of withdrawal of the candidate's assessment due to error regarding the factual assumptions, and consequent exclusion from this application.

Preferred Requirements:
- Proven experience in the use of bioinformatic tools for the prediction of structural modulation of proteins, namely in the use of the software MOE, PyMol and similar;
- Proven experience in biochemistry and molecular and cell biology techniques;
- Knowledge in redox post-translational modifications and mitochondrial dynamics;
- Knowledge in cysteine proteomics;
- Excellent domain of English language (spoken and written);
- Motivation for multidisciplinary research;
- Immediate availability to integrate the project.

III. Research Grant Duration: The research grant will have a duration of 3 months eventually renewable, up to a maximum of 6 months, starting in January 2023, on an exclusivity regime,

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FCT
Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

in accordance with the terms of the Regulation of Research Grants of the Foundation for Science and Technology, IP.

IV. Work plan:

The work plan to be developed will be conducted as part of the project EXPL/BIA-BQM/0793/2021, entitled "*Redox-signalling modulation of Mitochondrial Dysfunction through post-translational modifications*". The main aim of this project is to understand how redox post-translational modifications (redox-PTMs), particularly S-glutathionylation, modulates mitochondrial dynamics thus impacting on mitochondrial morphology and function.

Oxidative stress and mitochondrial dysfunction are key factors contributing to neurodegeneration in Parkinson´s disease (PD). However, the cellular and molecular mechanisms connecting these processes are not fully understood. Combining the use of proteomics in human brain tissue with *in silico* and *in vitro* research approaches this project will contribute to clarify the mechanisms underlying two of the main causal effects of neurodegeneration in PD and afford novel perspectives of modulation of these pathways as potential therapeutic targets.

Specifically, the tasks in this research grant will include:

1) Preparation of samples for proteomic analysis and treatment of proteomics data from PD patients and controls samples, with focus on redox-PTMs;
2) Study of the predicted effects of mitofusins S-glutathionylation in their structure and function using *in silico* methods (namely the use of MOE, PyMol and similar software)
3) Characterization of the modifications of mitofusins cysteine residues and evaluation of mitochondrial morphology and function in response to alterations in redox status in *in vitro* models.

V. Workplace and Scientific Guidance: The work will be carried out in iMed.ULisboa – Research Institute for Medicines, Edifício Professor Carlos da Silveira, at the premises of the Faculty of Pharmacy of the University of Lisbon, under the scientific guidance of Andreia Margarida Gonçalves das Neves Carvalho, PhD, Junior Researcher at the Faculty of Pharmacy of Universidade de Lisboa.

VI. Monthly maintenance stipend: The monthly maintenance stipend (grant) corresponds to 1.144,64€, according to the table of values directly attributed by FCT, I.P. in Portugal (https://www.fct.pt/apoios/bolsas/valores). Payment will be made via bank transfer.

In addition to the monthly maintenance stipend the grant holder will also be awarded with the value correspondent to the payment of the first step of Seguro Social Voluntário (voluntary payment of Social Security), in case he/she chooses to be included in this regime.

VII. Formalization of applications: Applications must be sent in non-editable format (PDF), to the address concursos@farm-id.pt, containing the identification of the above mentioned notice. Applications in paper format will not be accepted.

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VIII. Application deadline: The deadline for applications is from December 19th 2022 to January 2nd January 2023 (10 working days).

IX. Evaluation and rating criteria:

Candidate's Merit: Aims to assess compliance with the formal requirements requested in theopening notice, but also to consider the suitability of the scientific area of training and/orspecialization, training and professional experience, with a maximum weighting of 100%.

- Adequacy of the Scientific Training Area (AACF): With a maximum weighting of 30%
  - The candidates will be ranked based on the final grade presented on the certificate of the Master in Biopharmaceutical Sciences or similar areas (MCBF) – 0 to 20 values

- Training and Experience (FE): With a maximum weighting of 30%
  - The candidates will be ranked based on their experience and knowledge in the areas of redox post-translational modifications, mitochondrial dynamics and proteomics of cysteines (PTRDMPC) – 0 to 20 values

- Specific competencies for the proposed work plan (CEPTP): With a maximum weighting of 40%
  - The candidates will be ranked based on their experience and knowledge of bioinformatic tools for the prediction of structural modulation of proteins, experience in the evaluation of mitochondrial function and dynamics and post-translational modifications, namely S-glutathionylation (BIDMPTM) – 0 to 20 values

In the event of some candidates reach the same classification, an individual interview will be carried out with each of the 3 best candidates, with the goal of evaluating in an objective and systematic manner the following criteria:

- Quality of the Professional Experience (QEP);
- Ability to express and Verbal Fluency (CEFV);
- Motivation and Responsibility (MR);
- Critical Sense (SC);
- Knowledge in the area (CA).

The classification of the Selection Interview will be attained by the average of the grades reached in each evaluation criteria according to the following parameters: Excellent (20 values), Very Good (18 values), Good (16 values), Adequate (12 values) e Insufficient (8 values), being for this purpose filled an individual form for each candidate.

Final Classification: The score obtained in the final classification results from the sum of the points obtained in the Candidate's Merit, an individual form being out for each candidate. In the event

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of an interview being conducted the AACF will score 25%, the FE will score 25%, the CEPTP will score 40% and the Interview 10%.

X. Instruction of Application:

a) Form containing the candidate's identification (available on the FARM-ID's website);
b) *Curriculum Vitae* containing the information necessary for the evaluation of the application;
c) Copy of the Master degree certificate in Biopharmaceutical Sciences, or related areas;
d) Document certifying the enrolment in a non-conferring academic degree course, or declaration on honour that temporarily substitutes for it (available on the FARM-ID's website);
e) Declaration on honour stating that there is no professional activity that violates the exclusivity regime (available on the FARM-ID's website);
f) Letter of motivation indicating the experience and compatibility with the proposed Work Plan, namely regarding the preferred requirements and interest in obtaining the research grant for the future perspectives, as well as the immediate availability to integrate the project;
g) Other supporting documents considered relevant.

All the documents necessary for the correct application are available on the institutional website trough the link: https://www.ff.ulisboa.pt/faculdade/recursos-humanos/bolsadeinvestigacao-expl-bia-bqm-0793-2021

The documents that instruct the application must be submitted in Portuguese or English language.

No document that should have been submitted in the application phase can be submitted after the deadline set in the opening notice. Failure to comply with the deadline set for the submission of the application, as well as the lack or late submission of documents referred to in this point will determine the exclusion from the competition.

XI. Composition of the Jury: The Jury responsible for the selection will be constituted by:
President – Andreia Margarida Gonçalves das Neves Carvalho, PhD, Junior Researcher, FFUL
1st Member of the Jury – Prof. Maria João Carlos da Silva Gama, PhD, Assistant Professor, FFUL
2nd Member of the Jury – Prof. Rita Alexandra do Nascimento Cardoso Guedes, PhD, Associate Professor, FFUL
1st Alternate Member of the Jury – Prof. Elsa Margarida Teixeira Rodrigues, PhD, Associate Professor, FFUL
2nd Alternate Member of the Jury – Maria João de Jesus Nunes, PhD, Junior Researcher, FFUL

XII. Form of notification of results: All candidates will be notified of the final results of the evaluation by email and will have 10 working days after the aforementioned notification to pronounce themselves, in accordance with the terms of the Code of Administrative Procedure.

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After this notification, and in case there are no claims, the results will become final. In case of claims, and after the allegation is analysed and accepted or rejected, the results will become final after 10 business days.

After the final decision is made, a complaint/appeal can be filed to the Director of the FARM-ID – Faculty of Pharmacy Research and Development Association, Maria Beatriz da Silva Lima, PhD, Full Professor, within 10 working days from the date of notification.

XIII. **Applicable legislation and regulations:** Regulation of Research Grants of the Foundation for Science and Technology, I.P. (FCT, IP), Regulation no. 950/2019, published in the Diário da República, 2nd Series, no. 241, of December 16, 2019, of the Regulation of Research Grants of the University of Lisbon, Order no. 6238/2020, of 12 June, published in the Diário da República, 2nd Series, no. 113, of 12 June 2020, and of the Research Fellowship Statute (EBI), Decree-Law no. 123/2019, of 28 August, published in Diário da República, 1st Series, no. 164, of 28 August 2019.

Faculty of Pharmacy Research and Development Association, December 16th 2022.

The Director,

(Maria Beatriz da Silva Lima, PhD, Full Professor)

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