

## HUMANITAS UNIVERSITY

### Selection procedure for 1 Type B Research Fellowship in Life Sciences in compliance with art. 22 of Law 240/2010

Humanitas University invites applications for 1 position as Research Fellow in Life Sciences.

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|--------------------------------|--|
| Research Program Title         | Impact of autophagy activation on cardiac remodeling and vascular damage   |
| Research supervisor - Tutor    | Prof. Giulio STEFANINI   |
| Scientific Area                | 06 Medical Sciences  |
| Gross amount of the fellowship | 20.000 Euro  |
| Duration of the fellowship     | 12 months  |
| Objectives of the research     | <p>Cardiovascular diseases represent the leading cause of death globally. Therefore, it is important to discover novel strategies for their prevention and treatment. Autophagy is emerging as a new potential therapeutic target for preventing and treating cardiovascular diseases. Experimental studies demonstrated that activation of autophagy reduces cardiovascular damage in response to acute myocardial ischemia and chronic ischemic remodeling.</p> <p>Trehalose is a natural activator of autophagy, which proved to be effective in reducing chronic cardiac remodeling and atherosclerosis in recent experimental studies.</p> <p>The aims of this clinical study are to show that:</p> <ol style="list-style-type: none"><li>1) trehalose reduces cardiac remodeling through transcription factor EB (TFEB)-dependent activation of mitochondrial autophagy;</li><li>2) autophagy dysregulation is associated with the development of cardiovascular diseases in human patients;</li><li>3) trehalose administration reduces cardiac remodeling in</li></ol> |

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|  | <p>patients with coronary artery disease.</p> <p>The candidate will be involved in the following activities:</p> <ol style="list-style-type: none"> <li>1) design of a clinical study,</li> <li>2) data-base settlement and maintenance,</li> <li>3) screening and selection of the patients,</li> <li>4) blood sample collection,</li> <li>5) clinical follow-up,</li> <li>6) data analysis,</li> <li>7) manuscript redaction.</li> </ol> |
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The work place is in Pieve Emanuele - Milano.

A brief description of the project, activities to be carried out, mandatory requirements to take part into the selection process, information on the application procedure and on the selection criteria are presented in the following.

**RESEARCH PROJECT:**

Cardiovascular diseases represent the leading cause of death globally. Therefore, it is important to discover novel strategies for their prevention and treatment. Autophagy is emerging as a new potential therapeutic target for preventing and treating cardiovascular diseases. Experimental studies demonstrated that activation of autophagy reduces cardiovascular damage in response to acute myocardial ischemia and chronic ischemic remodeling.

Trehalose is a natural activator of autophagy, which proved to effective in reducing chronic cardiac remodeling and atherosclerosis in recent experimental studies. The aims of this clinical study are to show that:

- 1) trehalose reduces cardiac remodeling through transcription factor EB (TFEB)-dependent activation of mitochondrial autophagy;
- 2) autophagy dysregulation is associated with the development of cardiovascular diseases in human patients;
- 3) trehalose administration reduces cardiac remodeling in patients with coronary artery disease.

**ACTIVITIES TO BE CARRIED OUT:**

The candidate will be involved in the following activities:

- 1) design of a clinical study,
- 2) data-base settlement and maintenance,
- 3) screening and selection of the patients,
- 4) blood sample collection,
- 5) clinical follow-up,
- 6) data analysis,
- 7) manuscript redaction.

**MANDATORY REQUIREMENTS:**

In order to be considered for the post candidates must hold a Medical Degree and a PhD in a scientific area coherent with the research field.

**SELECTION PROCESS:**

Application for admissions must be submitted at the following link:

<https://pica.cineca.it/humanitas>

No hard copy of the application must be sent by post.

At first access, applicants need to register by clicking on “Register” and completing the requested data.

If applicants already have LOGINMIUR credentials, they do not need to register again. They must access with their LOGINMIUR username and password in the relevant field LOGINMIUR.

Applicants must enter all data necessary to produce the application and attach the required documents in PDF format.

As part of the selection process, a Selection Committee will evaluate the curriculum, titles and publications presented by the candidate.

**SELECTION CRITERIA:**

Preference will be given to candidates who possess a Medical Specialty (Residency) Diploma in scientific areas coherent with the research field.

Specifically, in the evaluation of the materials presented by the candidates, the Committee will consider:

- 1) high theoretical knowledge in ischemic cardiomyopathy,
- 2) experience in basic cardiac physiology,
- 3) competence in cardiovascular research,
- 4) publication record in cardiovascular medicine,
- 5) advanced English linguistic competence.

**FURTHER INFORMATION:**

For more details on the selection process please refer to the **Rectorate Decree n. 085/2019** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to [ufficiodocenti@hunimed.eu](mailto:ufficiodocenti@hunimed.eu) or telephone +39 02.8224.5642.