

## 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.

Research Program Title	<p><b>“Analisi del ruolo regolatorio di IL-1R8 nell'attivazione funzionale delle cellule T.”</b></p> <p><i>Courtesy translation:</i> Analysis of the regulatory role of IL-1R8 in T cell functional activation.</p>
Tutor	Prof. Cecilia GARLANDA
Scientific Area	06 - Medical Sciences
Gross amount of the fellowship	23.000 Euro
Duration of the fellowship	12 months
Objectives of the research	<p>IL-1R8 is expressed in human and mouse T cells, in particular CD8+ T cells, and IL-1R8-deficiency in mice affects CD8+ T cell proliferation, functional activation and production of IFN<math>\gamma</math> and cytotoxic molecules.</p> <p>The project is focused on the dissection of the mechanisms involved in the regulation of IL-1R8 expression in different T cell subsets and activation conditions, and on the characterization of the molecular mechanisms (ligands, signalling molecules, transcription factors) regulated by IL-1R8 in CD8+ T cells.</p> <p>This analysis will be extended to CD4+ T lymphocytes and to the effect of IL-1R8-blockade on their helper function in cancer, as well as to unconventional T cells. The relevance of IL-1R8 expression in tumor infiltrating lymphocytes will be investigated in the context of cancer, using mouse models and in vitro approaches of IL-1R8 silencing in human T cells, including CAR T cells.</p>
Activities to be carried	The Research Fellow will carry out the activities of

out	characterization of the functional role of IL-1R8 in T lymphocytes through in vitro experiments with human and murine cells and in vivo on mice.
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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:**

IL-1R8 is expressed in human and mouse T cells, in particular CD8+ T cells, and IL-1R8-deficiency in mice affects CD8+ T cell proliferation, functional activation and production of IFN $\gamma$  and cytotoxic molecules.

The project is focused on the dissection of the mechanisms involved in the regulation of IL-1R8 expression in different T cell subsets and activation conditions, and on the characterization of the molecular mechanisms (ligands, signalling molecules, transcription factors) regulated by IL-1R8 in CD8+ T cells.

This analysis will be extended to CD4+ T lymphocytes and to the effect of IL-1R8-blockade on their helper function in cancer, as well as to unconventional T cells. The relevance of IL-1R8 expression in tumor infiltrating lymphocytes will be investigated in the context of cancer, using mouse models and in vitro approaches of IL-1R8 silencing in human T cells, including CAR T cells.

**ACTIVITIES TO BE CARRIED OUT:**

The Research Fellow will carry out the activities of characterization of the functional role of IL-1R8 in T lymphocytes through in vitro experiments with human and murine cells and in vivo on mice.

**MANDATORY REQUIREMENTS:**

In order to be considered for the post candidates must hold a PhD.

**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.

#### **SELECTION CRITERIA:**

Selection criteria are predetermined by the Selection Committee. As part of the selection process, the Committee will evaluate the curriculum, titles and publications presented by the candidate and will consider, in particular:

- Previous experience in molecular and cellular biology and cytofluorimetry;
- previous experience in regulation of inflammation, innate immunity, in the context of cancer;
- previous experience in animal studies;
- excellent knowledge of English.

#### **FURTHER INFORMATION:**

For more details on the selection process please refer to the **Rectorate Decree n. 023/2020** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to [ufficiodocenti@hunimed.eu](mailto:ufficiodocenti@hunimed.eu) or telephone +39 02.8224.5642/5421.