



Courtesy translation of D.R. n. 250/2024

*For more details on the selection process, please refer to the Italian version of D.R. n.250/2024 available at <http://www.hunimed.eu/it/lavora-con-noi/>*

**SELECTION PROCEDURE FOR RESEARCH FELLOWSHIP**

Research Program Title	<b>Functional validation of RNA-based drugs in the central nervous system (MOUSE profile)</b>
Tutor	Dr. Sebastiano BARISELLI
Scientific Area	05 - Biological Sciences
Gross amount of the fellowship	20.000 Euro
Duration of the fellowship	12 months
Objectives of the research	<p>RNA-based therapies involve the use of RNA molecules to modulate signaling pathways to treat specific conditions. Advances in RNA-targeting drugs allow a wide range of applications to treat both rare and common diseases. RNA-based drugs can be classified into three categories: 1) antisense oligonucleotides or RNA interference to modify gene expression; 2) RNA molecules that can modulate protein function; and 3) mRNA drugs that encode proteins. In this project, we will use various in vitro and in vivo model systems to test new RNA-based drugs for the treatment of genetic diseases affecting the central nervous system, employing novel strategies that enable in-depth characterization of their pharmacodynamic and pharmacokinetic profiles. Functional characterization of the lead compounds will be conducted through imaging and molecular analysis to provide a comprehensive and integrated evaluation of the drug properties.</p>
Activities to be carried out	<ul style="list-style-type: none"><li>• Management of transgenic mouse colonies,</li><li>• execution of minimally invasive procedures on murine models,</li><li>• performance of in utero microsurgical procedures and intracerebral injections on murine models,</li></ul>

	<ul style="list-style-type: none"> <li>• preparation of primary cortical neuron cultures,</li> <li>• immunofluorescence and in situ hybridization on cells and tissues,</li> <li>• preparation of sections for live analysis,</li> <li>• RNA purification and qPCR,</li> <li>• molecular cloning and basic microbiology,</li> <li>• maintenance and culture of immortalized and pluripotent cell lines.</li> </ul>
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	<ul style="list-style-type: none"> <li>• Master's degree in Biological Sciences, Neurobiology or Biotechnology.</li> <li>• Adequate scientific and professional background to carry out the research activity described in this call.</li> </ul>
Selection process	<p>Application for admissions must be submitted at the following link:</p> <p><a href="https://pica.cineca.it/humanitas">https://pica.cineca.it/humanitas</a></p> <p>No hard copy of the application must be sent by post.</p> <p>At first access, applicants need to register by clicking on “Register” and completing the requested data.</p> <p>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.</p> <p>Applicants must enter all data necessary to produce the application and attach the required documents in PDF format.</p>
Selection criteria	<p>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:</p> <ul style="list-style-type: none"> <li>• Scientific and professional background suitable for carrying out the research activities in question;</li> <li>• strong technical skills in experimentation both in vivo on murine models and in vitro on immortalized and primary cell models;</li> </ul>

	<ul style="list-style-type: none"><li>• previous work experience in basic research laboratories in the fields of neuroscience and developmental biology.</li></ul> <p>National certificates for the use of animal models and certification for in vivo work from accredited institutions will be considered preferential requirements.</p>
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**FURTHER INFORMATION:**

In the event of any conflict between Job Opening text and Italian D.R. text, the Italian version will prevail.

For more details on the selection process please refer to the **D.R. n. 250/2024** (<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.