



Courtesy translation of D.R. n. 171/2023

For more details on the selection process, please refer to the Italian version of D.R. n. 171 /2023 available at <http://www.hunimed.eu/it/lavora-con-noi/>

SELECTION PROCEDURE FOR RESEARCH FELLOWSHIP

Research Program Title	The Cumulus Oophorus extracellular MATRIX as a marker of follicular development, oocyte maturation and embryo quality in human assisted reproduction (CO-MATRIX)
Tutor	Prof. Antonio INFORZATO
Scientific Area	05 – Biological Sciences
Gross amount of the fellowship	20.000,00 Euro
Duration of the fellowship	18 months
Objectives of the research	<p>Assisted reproduction technologies (ART), including in vitro fertilization (IVF) and intracytoplasmic sperm injection (ICSI), are invaluable tools to treat infertility. However, ART come with complications like ovarian hyper-stimulation syndrome (OHSS), prematurity, low birth weight, and multiple pregnancy. It is thus timely to identify novel criteria for hormonal stimulation and embryo selection.</p> <p>The extracellular matrix (ECM) of the cumulus oophorous complex (COC, that comprises the oocyte and surrounding cumulus cells, CCs) comprises hyaluronic acid (HA), the proteoglycan IαI, the hyaladherin TSG-6, and the long pentraxin PTX3. Initial evidence from our own work on ICSI points to associations between polymorphisms in the PTX3 gene, matrix concentration of the protein, oocyte nuclear grading, and embryo quality.</p> <p>Based on these findings, we hypothesize that HA, TSG-6, IαI and PTX3 hold potential as markers of oocyte quality and developmental competence in IVF. We therefore propose a translational research strategy that integrates clinical (human ICSI) and preclinical (bovine COCs) layers of investigation.</p>

<p>Activities to be carried out</p>	<ul style="list-style-type: none"> • Assistance on patient enrollment at the Fertility Unit of IRCCS Humanitas Research Hospital, including filing of consent forms; • Processing of COCs and isolation of ECM and CCs (in collaboration with trained and qualified biologists of the Fertility Center); • Execution of the biochemical tasks on the project, including measurement of the concentration of HA, TSG-6, HC1/2, and PTX3 the COC ECMs; • Execution of the molecular tasks on the project, including DNA extraction and preparation for genotyping; • Data management, analysis and reporting
<p>Work place</p>	<p>PIEVE EMANUELE - Milan</p>
<p>Mandatory requirements</p>	<ul style="list-style-type: none"> • Master degree in Biology/ Biotechnology
<p>Selection process</p>	<p>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.</p>
<p>Selection criteria</p>	<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"> • The candidate should be familiar with standard procedures and techniques of cell biology, including isolation, manipulation and culture of mammalian cells;

	<ul style="list-style-type: none">• Previous experience with handling and manipulation of human cells in either research, clinical or industrial settings is a plus;• Familiarity with tools and applications of the Windows Office suite is required, with major regard to Excel and Word;• Strong attitude to collaboration and team working
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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. 171/2023** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.