

Fondo Sociale Europeo Plus 2021/2027

FSE+

Sportello 2025 P.S. 20/24

Sostegno alla realizzazione di dottorati di ricerca

With Decree No. 9526/GRFVG of February 28, 2025, the Friuli Venezia Giulia Region published the Notice regarding the submission of operations for Specific Program No. 20/24, which aims to support higher education through the realization of PhD programs.

Specific Programme 20/24, through the funding of doctoral scholarships, contributes to the achievement of the objectives of the Sustainable Smart Specialisation Strategy (S4). It supports the development or strengthening of integration with the regional production system and/or research organisations, through coordination and collaboration mechanisms with regional enterprises or research bodies, or by leveraging the potential for technology transfer of processes, products, applications, or, more broadly, research outcomes.

- Sportello 2025
- Ciclo 41
- CUP J93C25000640008
- Progetto 2025/6525/12

Dottorato in Personalized Medicine and Innovative therapies

“Functional role of GAS5-AS1 in the pathogenesis of idiopathic nephrotic syndrome and in the modulation of the response to glucocorticoids: a patient-specific model-based approach”

Idiopathic nephrotic syndrome (INS) represents a pediatric glomerular pathology characterized by a variable response to glucocorticoids (GC), differentiating into steroid-sensitive (SSNS), steroid-dependent (SDNS), and steroid-resistant (SRNS) forms. Our research explores the interaction between two emerging pathogenetic mechanisms: the reduced expression of the long non-coding RNA GAS5-AS1 in SDNS patients and the presence of anti-nephrin autoantibodies, whose functional correlation is not yet characterized. The project implements an innovative cellular model based on podocytes derived from patient-specific induced pluripotent stem cells (iPSC), overcoming the limitations of traditional systems. Through this approach, we will analyze: 1) the expression levels of GAS5-AS1 in podocytes derived from patients with different therapeutic response phenotypes; 2) the structural and functional alterations induced by exposure to sera containing anti-nephrin autoantibodies; 3) the molecular pathways regulated by GAS5-AS1 through CRISPR/Cas9 modulation. Expected results include: the identification of molecular mechanisms linking GAS5-AS1 to therapeutic response and the characterization of the influence of anti-nephrin autoantibodies on GAS5-AS1 expression. The translational impact includes the development of predictive biomarkers to stratify patients early and personalize treatments. The research could also identify new pharmacological targets to improve therapeutic efficacy. The project aligns with the S4 Strategy of Friuli Venezia Giulia in the field of life sciences, integrating advanced technologies of cellular reprogramming and genomic editing. Collaborations with IRCCS Burlo Garofolo and biotechnological companies will favor technology transfer, contributing to the competitive positioning of the region in biomedical innovation.