

AVAILABLE POSITIONS

Principal Investigator	FRANCESCA COSCIA
Institute of Affiliation	Human Technopole

PROJECT INFO	
Title of the proposed project:	Molecular mechanism of thyroid hormone regulation
Short description of the project	Thyroid hormone flux into and out of organs is regulated by key membrane proteins that fine-tune local hormone availability and action. We aim to investigate the molecular regulation of thyroid hormone transport across cells by defining how thyroid hormones bind to transport proteins, interact with regulatory partners, and traffic between organelles. To achieve this, we will combine cryo-electron tomography, cell biology, and mass spectrometry to obtain an integrated structural and cellular understanding of thyroid hormone transport and its regulation. Our lab is supported by the ERC THYROMOL project funding https://cordis.europa.eu/project/id/101041298/it
Main research area for the project	Structural Biology
Second research area for the project	Biochemistry and cell biology
3 key words for the project	Thyroid hormone, transport, membrane proteins

LAB INFO	
Main topic/s of the lab	Structural Biology
Short description of the lab activity	Molecular mechanism of thyroid hormone regulation from atoms to organoids
Recent bibliography	• Integrative structural analysis of the human LRP2–LRPAP1 complex reveals multiple regulatory sites K. Ramanadane, A. Di Ianni, A. Graziadei, L. Tosatto, F. Miele, F. Coscia <i>Communications Biology</i>, 2026 • Molecular recognition of thyroglobulin by sortilin I. Boniardi, G. Tanzi, A. Di Ianni, A. Graziadei, M. Nedeljković, C. Stejskalova, et al. <i>Nature Communications</i>, 2026 • Integrative approach for the characterization of the interaction landscape of LRPAP1 on the human LRP2 receptor K. Ramanadane, A. Graziadei, A. Di Ianni, L. Tosatto, F. Miele, F. Coscia <i>FEBS Open Bio</i> 15, 143–143, 2025 • Molecular mechanism of thyroxine transport by monocarboxylate transporters M. Tassinari, G. Tanzi, F. Maggiore, S. Groeneweg, F. S. van

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	Geest, et al. <i>Nature Communications</i> 16(1), 4493, 2025 • A conserved acidic residue drives thyroxine synthesis within thyroglobulin and other protein precursors C. Stejskalova, F. Arrigoni, R. Albanesi, L. Bertini, L. Mollica, F. Coscia <i>Journal of Biological Chemistry</i> 301(1), 108026, 2025 • Serialized on-grid lift-in sectioning for tomography (SOLIST) enables a biopsy at the nanoscale H. T. D. Nguyen, G. Perone, N. Klena, R. Vazzana, F. Kaluthantrige Don, et al. <i>Nature Methods</i> 21(9), 1693–1701
Group composition	4 postDocs, 2 PhD students, 1 technician, 1 intern
Institutional page link	https://humantechnopole.it/en/research-groups/coscia-group/
Video link	https://www.youtube.com/watch?v=mbAKFLRGvDM