



UNIVERSITÀ DEGLI STUDI DI TORINO
DIPARTIMENTO DI SCIENZE MEDICHE

**Division of Endocrinology, Diabetes
and Metabolism**

Director: Prof. Ezio Ghigo

Division of Oncological Endocrinology

Director: Prof. Emanuela Arvat

Supervisor: Prof. Silvia Grottoli

Tutor: Dr. Mirko Parasiliti-Caprino

Website:

https://www.dsm.unito.it/do/home.pl/View?doc=/gruppi_ricerca/Endocrinologia_Radiologica_e_Endocrinologia_Oncologica/Endocrinologia_radiobiologia_e_endocrinologia_oncologica.html

Research Observership overview

Two Divisions of Endocrinology are present in the “A.O.U. Città della Salute e della Scienza” of Turin:

- The Division of Endocrinology, Diabetes and Metabolism (Director: Prof. Ezio Ghigo)
- The Division of Oncological Endocrinology (Director: Prof. Emanuela Arvat)

The Division of Endocrinology, Diabetes and Metabolism of the is one of the biggest centers of Endocrinology in Italy, with a longstanding clinical and research expertise. Its activity covers several areas:

- Endocrinology
- Diabetes, Metabolism and Cardiovascular Endocrinology
- Clinical Research
- Clinical Biochemistry
- Cellular and Molecular Endocrinology

The Division of Oncological Endocrinology was one of the first-born centers for endocrine cancers in Italy and in Europe. It focuses its activity on:

- Endocrine cancers
- Endocrine and Metabolic diseases of cancer survivors
- Diabetes and Metabolic diseases in Oncologic patients
- Clinical Biochemistry
- Cellular and Molecular Biology of hormone-dependent tumors



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In these centers clinical research is a strength that makes us particularly proud. In fact, all our doctors carry out both sponsored and non-sponsored studies, which lead to publications in important international Journals.

The Piedmont school of Clinical Endocrinology works mainly on Neuroendocrinology, Endocrine Tumors, Adrenal Diseases and Endocrine Hypertension, trying to contribute to the development of new diagnostic and therapeutical options for endocrine diseases.

Regarding clinical activity, multidisciplinary Pituitary and Adrenal meetings are performed at least each month for the discussion of more insidious cases in presence of Endocrinologist, Oncologist, Surgeon, Pathologist, Nuclear Medicine Physician, Radiotherapist, Radiologist and Nurse.

Technologies

Clinical Biochemistry Laboratory

The two Divisions could rely on the services offered by the Clinical Biochemistry laboratory of the City of Health and Science University Hospital of Turin. Beside the classical assays performed in clinical context, the laboratory offers a wide panel of specialistic analyses performed by means of mass spectrometry-based analytical platforms. Such measurements include, but are not limited to:

- LC-M/MS analysis of serum and urinary amino acids;
- LC-MS/MS analysis of plasma/serum steroid hormones;
- GC-MS/MS analysis of urinary steroids;
- LC-MS/MS analysis of urinary and salivary cortisol/cortisone;
- LC-MS/MS analysis of urinary and plasma metanephrines.

Furthermore, the development of a dedicated analytical platform for target steroidomic analyses, monitoring over 200 endogenous steroids as well as glucuro- and sulpho-conjugated phase II metabolites in serum/plasma, urine and saliva matrices represents one of the main research axis of the Clinical Biochemistry Laboratory and will be soon applied in clinical research projects with the aim of characterizing steroid compartment in physiological and pathological conditions.

Molecular and Cellular Endocrinology

The basic/translational research activities of the Division of Endocrinology, Diabetes and Metabolism, at the Laboratory of Molecular and Cellular Endocrinology, directed by Prof. Riccarda Granata, are focused on the study, both at the central and peripheral levels, of the effects of hormones and peptides regulating neuroendocrine, metabolic, tumoral and cardiovascular functions.



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In vitro and *in vivo* models are used to unravel the biological functions of the different molecules and underlying molecular mechanisms. These studies aim at identifying hormones/peptides with protective functions or involved in pathophysiological processes of diseases such as diabetes, metabolic diseases, cancer, neurodegenerative and cardiovascular diseases.

The main technical expertise of our laboratory includes but is not limited to:

- Cellular and molecular biology, mechanisms of intracellular signal transduction;
- DNA, RNA, and protein extraction;
- Gene expression analysis (RNAs, microRNAs);
- Real time quantitative PCR (RT-qPCR);
- Protein expression by Western blot, immunofluorescence, flow cytometry (FACS, Muse);
- Cell viability, proliferation, apoptosis, migration/invasion assays;
- Isolation and culture of primary cells from both human and animal tissues (pancreatic beta-cells, adipocytes, cancer cells);
- Hormone secretion by specific immunometric assays (e.g., ELISA, RIA);
- Metabolic analysis in *in vitro* models (by Seahorse XF Analyzer);
- *In vivo* mice models of metabolic diseases and cancer.

Contacts

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Tutor: Dr. Mirko Parasiliti-Caprino, mirko.parasiliticaprino@unito.it



Recent publications

- 1) Benefits of dual-release hydrocortisone treatment on central adiposity and health-related quality of life in secondary adrenal insufficiency.
Gasco V, Giannelli J, Campioni L, Arvat E, Ghigo E, Grottoli S, Maccario M, Giordano R.
J Endocrinol Invest. 2022 Oct 17. doi: 10.1007/s40618-022-01940-1.
- 2) Antagonist of Growth Hormone-Releasing Hormone Potentiates the Antitumor Effect of Pemetrexed and Cisplatin in Pleural Mesothelioma.
Gesmundo I, Pedrolli F, Vitale N, Bertoldo A, Orlando G, Banfi D, Granato G, Kasarla R, Balzola F, Deaglio S, Cai R, Sha W, Papotti M, Ghigo E, Schally AV, Granata R.
Int J Mol Sci. 2022 Sep 24;23(19):11248.
- 3) Development and internal validation of a predictive score for the diagnosis of central adrenal insufficiency when morning cortisol is in the grey zone.
Bioletto F, Berton AM, Varaldo E, Cuboni D, Bona C, Parasiliti-Caprino M, Prencipe N, Ghigo E, Grottoli S, Maccario M, Gasco V
J Endocrinol Invest. 2022 Sep 26
- 4) A retrospective study on the association between urine metanephrines and cardiometabolic risk in patients with nonfunctioning adrenal incidentaloma.
Parasiliti-Caprino M, Lopez C, Bollati M, Bioletto F, Sola C, Di Carlo MC, Ponzetto F, Gesmundo I, Settanni F, Ghigo E, Mengozzi G, Maccario M, Giordano R.
Sci Rep. 2022 Sep 1;12(1):14913
- 5) Mean GH profile is more accurate than single fasting GH in the evaluation of acromegaly disease control during somatostatin receptor ligands therapy.
Bona C, Prencipe N, Berton AM, Bioletto F, Parasiliti-Caprino M, Gasco V, Ghigo E, Grottoli S.
J Endocrinol Invest. 2022 Oct;45(10):1955-1965
- 6) From SGAP-Model to SGAP-Score: A Simplified Predictive Tool for Post-Surgical Recurrence of Pheochromocytoma.
Parasiliti-Caprino M, Bioletto F, Lopez C, Bollati M, Maletta F, Caputo M, Gasco V, La Grotta A, Limone P, Borretta G, Volante M, Papotti M, Pia A, Terzolo M, Morino M, Pasini B, Veglio F, Ghigo E, Arvat E, Maccario M.
Biomedicines. 2022 Jun 3;10(6):1310
- 7) Development and internal validation of a predictive model for the estimation of pheochromocytoma recurrence risk after radical surgery.



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Parasiliti-Caprino M, Bioletto F, Lopez C, Maletta F, Caputo M, Gasco V, La Grotta A, Limone P, Borretta G, Volante M, Papotti M, Terzolo M, Morino M, Pasini B, Veglio F, Ghigo E, Arvat E, Maccario M.

Eur J Endocrinol. 2022 Feb 15;186(3):399-406

- 8) The Accuracy of Simple and Adjusted Aldosterone Indices for Assessing Selectivity and Lateralization of Adrenal Vein Sampling in the Diagnosis of Primary Aldosteronism Subtypes.

Parasiliti-Caprino M, Bioletto F, Ceccato F, Lopez C, Bollati M, Di Carlo MC, Voltan G, Rossato D, Giraud G, Scaroni C, Ghigo E, Maccario M.

Front Endocrinol (Lausanne). 2022 Feb 16;13:801529

- 9) Development and Internal Validation of a Predictive Model for Adult GH Deficiency Prior to Stimulation Tests.

Bioletto F, Parasiliti-Caprino M, Berton AM, Prencipe N, Cambria V, Ghigo E, Grottoli S, Gasco V.

Front Endocrinol (Lausanne). 2021 Sep 24;12:737947

- 10) Second-Day Morning Cortisol Levels after Transsphenoidal Surgery Are Accurate Predictors of Secondary Adrenal Insufficiency with Diagnostic Cut-Offs Similar to Those in Non-Stressed Conditions.

Prencipe N, Parasiliti-Caprino M, Gatti F, Penner F, Berton AM, Bona C, Caputo M, D'Angelo V, Cappiello V, Gasco V, Ghigo E, Zenga F, Grottoli S.

Neuroendocrinology. 2021;111(7):639-649.

- 11) Prevalence of primary aldosteronism and association with cardiovascular complications in patients with resistant and refractory hypertension.

Parasiliti-Caprino M, Lopez C, Prencipe N, Lucatello B, Settanni F, Giraud G, Rossato D, Mengozzi G, Ghigo E, Benso A, Maccario M.

J Hypertens. 2020 Sep;38(9):1841-1848