

IRCCS SAN RAFFAELE PISANA – RESEARCH CENTER LABORATORY OF CARDIOVASCULAR ENDOCRINOLOGY

HEAD

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STAFF

Caterina Mammi, PhD
Andrea Armani, PhD
Vincenzo Marzolla, PhD
Alessandra Feraco, PhD
Antonella Antelmi, technician
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LAB FACILITIES

Cell culture room, fully equipped for primary cell preparation and culture. Animal facility equipped with procedure room with 2 dissecting microscopes, mouse anaesthesia and ventilator capability, mouse telemetry, transthoracic echo, MRI, and instruments for in vivo drug and gene delivery. Full equipment for molecular and cellular biology: Real Time PCR, ELISA, flow cytometry, western blot, immunohistochemistry, morphologic analysis

LAB INTERESTS AND EXPERTISE

In the last years our group has contributed to explore the role of Mineralocorticoid Receptor (MR) in the pathophysiology of the adipose organ and vascular endothelium. We demonstrated for the first time that MR plays a pivotal role in adipose differentiation induced both by mineralocorticoids and glucocorticoids. We also showed that aldosterone increases expression of Intercellular Adhesion Molecule 1 (ICAM-1) gene in human endothelial cells (EC) and in turn promotes leukocyte adhesion to human coronary ECs. We are currently exploring the role of MR in “browning” of white adipose tissue and in the control of autophagic rate of fat and skeletal muscle.

RECENT PUBLICATIONS

- 1: Spoletini I, Caprio M, Vitale C, Rosano GM. Androgens and cardiovascular disease: gender-related differences. *Menopause Int.* 2013 Jun;19(2):82-6 Epub 2013 May 21. Review.
- 2: McGraw AP, Bagley J, Chen WS, Galayda C, Nickerson H, Armani A, Caprio M, Carmeliet P, Jaffe IZ. Aldosterone increases early atherosclerosis and promotes plaque inflammation through a placental growth factor-dependent mechanism. *J Am Heart Assoc.* 2013 Feb 22;2(1)
- 3: Feraco A, Armani A, Mammi C, Fabbri A, Rosano GM, Caprio M. Role of mineralocorticoid receptor and renin-angiotensin-aldosterone system in adipocyte dysfunction and obesity. *J Steroid Biochem Mol Biol.* 2013 Sep;137:99-106. Epub 2013 Feb 28. Review
- 4: Lorenzen JM, Dietrich B, Fiedler J, Jazbutyte V, Fleissner F, Karpinski N, Weidemann F, Wanner C, Asan E, Caprio M, Ertl G, Bauersachs J, Thum T. Pathologic endothelial response and impaired function of circulating angiogenic cells in patients with Fabry disease. *Basic Res Cardiol.* 2013 Jan;108(1):311. Epub 2012 Nov 20.
- 5: Ucar A, Gupta SK, Fiedler J, Erikci E, Kardasinski M, Batkai S, Dangwal S, Kumarswamy R, Bang C, Holzmann A, Remke J, Caprio M, Jentzsch C, Engelhardt S, Geisendorf S, Glas C, Hofmann TG, Nessling M, Richter K, Schiffer M, Carrier L, Napp LC, Bauersachs J, Chowdhury K, Thum T. The miRNA-212/132 family regulates both cardiac hypertrophy and cardiomyocyte autophagy. *Nat Commun.* 2012;3:1078.
- 6: Mammi C, Calanchini M, Antelmi A, Cinti F, Rosano GM, Lenzi A, Caprio M, Fabbri A. Androgens and adipose tissue in males: a complex and reciprocal interplay. *Int J Endocrinol.* 2012; Epub 2011 Dec 22.

7: Caprio M, Mammi C, Rosano GM. Vitamin D: a novel player in endothelial function and dysfunction. Arch Med Sci. 2012 Feb 29;8(1):4-5.

8: Marzolla V, Armani A, Zennaro MC, Cinti F, Mammi C, Fabbri A, Rosano GM, Caprio M. The role of the mineralocorticoid receptor in adipocyte biology and fat metabolism. Mol Cell Endocrinol. 2012 Mar 24;350(2):281-8Epub 2011 Sep 10. Review.

