Scientific Curriculum

Personal Information: Marzia Di Donato

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Assistant Professor in General Pathology (RTDA 06/A2 MED/04) Dept of Precision Medicine, University of Campania "L. Vanvitelli"

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o **URL for web site:**
https://www.medicinadiprecisione.unicampania.it/dipartimento/docenti?MATRICOLA=702683
https://www.scopus.com/authid/detail.uri?authorId=37072110900

2017: Qualified as Specialist in "Clinical Pathology and Biochemistry" Summa cum Laude". University of Naples "Federico II".

2013: Qualified as PhD in "Experimental Physiopathology and Neuroscience" XXVI cycle. Department of Biochemistry, Biophysics and General Pathology, Faculty of Medicine, and Surgery - II University of Naples, Italy.

January 2013: Qualified as Professional Biologist - University of Sannio, Benevento, Italy.

October 2009: Graduated in Biological Science (laurea magistralis) Summa cum Laude from the University of Naples 'Federico II', Italy.

May 2007: Graduated in Biology (BSc equivalent) (Major in Molecular and Cellular Biology) from the University of Naples 'Federico II'.

-**Previous positions**

03-2020/09-2020: Post-Doc Fellowship funded by "Fondazione Umberto Veronesi", titled "The role of exosomes derived from prostate cancer microenvironment in prostate cancer progression and therapy". University of Campania "L. Vanvitelli"

03-2019/02-2020: Post-Doc Fellowship funded by "Fondazione Umberto Veronesi", titled "Androgen Receptor/FilaminA complex as a mediator of stromal-tumor interaction in Prostate Cancer: therapeutic implication". University of Campania "L. Vanvitelli"

2016-2019: Triennial Fellowship for Italy funded by AIRC-FIRC. Project titled: "Targeting prostate cancer spreading".

2014-2015: Post-Doc Fellowship funded by MIUR 2010/2011. II University of Naples.

2014: co.co.co funded by MIUR. II University of Naples, Italy.

2010-2013: PhD program. University of Campania L. Vanvitelli

2010: Fellowship funded by the Italian Association for Cancer Research (AIRC). Dept of Gen. Path. - II University of Naples.

-Prizes and awards

- POSTER AWARDS: New androgen receptor antagonists (SARMs) for the treatment of human prostate cancer. Di Donato M.-Giornate Scientifiche di Ateneo 2013, Seconda Università degli Studi di Napoli, Caserta.
- Winner of an Italian triennial AIRC Fellowship: 2016-2019
- Winner of two PostDoc FUV fellowships: years 2019 and 2020

- Teaching activities and PhD supervision

2021-2022/2022-2023: General pathology (MED/04)(Biomedical Laboratory Techniques degree course)University of Campania “L.Vanvitelli”
2021-2022/2022-2023: General Pathology(MED/04). Medicine and Surgery in English degree course. University of Campania “L.Vanvitelli”.
2020-2021/2021-2022/2022-2023: General Pathology(MED/04). Dental Hygiene degree course. School of Medicine and Surgery. University of Campania “L.Vanvitelli”.
2018/2019t-2020/2021: Assistant in General pathology (MED/04). Degree course in medical radiology techniques for imaging and radiotherapy. University of Campania “L.Vanvitelli”.

2017-2018/2018-2019: Supplementary teaching activity, General Pathology (MED 04). Degree Course in Physiotherapy. University of Campania "L.Vanvitelli". **From 2015-today:** Supervisor of different PhD students attending the laboratories of the group.Education and Training

Editorial activity

Reviewer for International Journals: Scientific reports, Plos One, Cancers, Cells, International Journal of Molecular Sciences, Biomolecules, Pharmaceutics, Frontiers in Cell and Developmental Biology, Frontiers in Endocrinology, Frontiers in Oncology, Journal of Clinical Medicine, Nutrients, OncoTarget and Therapy, Bio Protocol, Cancer Medicine, European Journal of Inflammation, International Journal of General Medicine, BMC Complementary Medicine, and Therapies
2019: Guest Editor for BioMed Research International (HINDAWI) Special Issue titled” Molecular Insights and New Effective Therapies for Hormone-Resistant Cancers"
Topic Editor for Pharmaceutics MDPI https://www.mdpi.com/journal/pharmaceutics/topic_editors
Guest Editor for Journal of Clinical Medicine MDPI, Special Issue titled "Targeting the Androgen Receptor for Treatment of Prostate Cancer" (https://www.mdpi.com/journal/jcm/special_issues/treatment_prostate_cancer)
Guest Associate Editor for Molecular and Cellular Oncology section in Frontiers in “Cell and Developmental Biology" and in Frontiers in Oncology for the Special Issue titled “The Role of Steroid Hormones and Growth Factors in Cancer” (https://www.frontiersin.org/research-topics/12675/the-role-of-steroid-hormones-and-growth-factors-in-cancer)

Guest Associate Editor for “Cancers” for the Special Issue titled “Epidermal Growth Factor Receptor Signaling in Cancer”. (https://www.mdpi.com/journal/cancers/special_issues/EGFR_Signal)
Guest Editor in Frontiers in Cellular Oncology for the Special Issue titled “Targeting Estrogens in Cancer Care” (https://www.frontiersin.org/research-topics/27501/targeting-estrogens-in-cancer-care)
Topic Editor in Frontiers in Endocrinology for the Special Issue “March 2022: Ovarian and Prostate Cancer Awareness Month”. (https://www.frontiersin.org/research-topics/35927/march-2022-ovarian-and-prostate-cancer-awareness-month)

-Membership of scientific societies

"**Associate faculty member**" of "Faculty Opinion" in "Cell Biology" e "Cell Signaling" sections. https://facultyopinions.com/member/1036059

Member of SIPMET (Italian Society of Pathology and Translational Medicine)

Publications:

-**Editorial: Targeting Estrogens in Cancer Care. Di Donato, M.** Frontiers in Oncology, 2022, 12, 935938

-Inhibition of Vps34 and p110δ PI3K Impairs Migration, Invasion and Three-Dimensional Spheroid Growth in Breast Cancer Cells. Di Donato, M., Giovannelli, P., Migliaccio, A., Bilancio, A. International Journal of Molecular Sciences, 2022, 23(16), 9008

-**The Role of Curcumin in Prostate Cancer Cells and Derived Spheroids**. Boccellino, M., et al.,.Cancers, 2022, 14(14), 3348

-New TRPM8 blockers exert anticancer activity over castration-resistant prostate cancer models. Di Sarno V, Giovannelli P, Medina-Peris A, Ciaglia T, **Di Donato M,** et al., Eur J Med Chem. 2022

-**Targeting ERβ to fight melanoma: a new valid approach?** Di Donato M, et al.,. J Transl Med. 2022 .

-**Editorial: The Role of Steroid Hormones and Growth Factors in Cancer.** Cernera G**, Di Donato M,** Higgins PJ, Schlaepfer IR. Front Cell Dev Biol. 2022.
-New Insights and Emerging Therapeutic Approaches in Prostate Cancer. Licitra F, Giovannelli P, **Di Donato M**, et al., 2022. doi: 10.3389/fendo.2022.840787.

-A Small Peptide Targeting the Ligand-Induced Androgen Receptor/Filamin a Interaction Inhibits the Invasive Phenotype of Prostate Cancer Cells. Di Donato M et al., Cells, 2022 doi: 10.3390/cells11010014.
-Communication between cells: exosomes as a delivery system in prostate cancer. Giovannelli P**, Di Donato M,** et al., Cell Commun Signal. 2021 Nov 12;19(1):110. doi: 10.1186/s12964-021-00792-1.

-Therapeutic potential of TRPM8 antagonists in prostate cancer. Di Donato M, et al., Sci Rep. 2021

-Targeting the Nerve Growth Factor Signaling Impairs the Proliferative and Migratory Phenotype of Triple Negative Breast Cancer Cells. Di Donato M, et al.,. Front Cell Dev Biol. 2021

-The androgen receptor/filamin A complex as a target in prostate cancer microenvironment. M. Di Donato, et al., Cell Death & Disease (2021).

-**Tumor-promoting function of RIZ2: searching for a putative mechanism.** M. Rienzo, A.Sorrentino, E. Di Zazzo, **M. Di Donato**, et al., Frontiers in Oncology (2021)

-The Pan-Sirtuin Inhibitor MC2494 Regulates Mitochondrial Function in a Leukemia Cell Line. Carafa V, Russo R, Della Torre L, Cuomo F, Dell'Aversana C, Sarno F, Sgueglia G, **Di Donato M**, et al..Front Oncol. 2020

-ROS in cancer therapy: the bright side of the moon. Perillo B, **Di Donato M**, et al., A.Exp Mol Med. 2020

-Enzymatic and Biological Characterization of Novel Sirtuin Modulators against Cancer. Carafa V, Poziello A, Della Torre L, Giovannelli P, **Di Donato M**, et al.,.Int J Mol Sci. 2019

-Estrogen receptors in epithelial-mesenchymal transition of prostate cancer Di Zazzo E, Galasso G, Giovannelli P, **Di Donato M,** et al.,. Cancers (Basel). 2019

-Breast cancer stem cells: The role of sex steroid receptors. Giovannelli P, **Di Donato M**, et al.,. World J Stem Cells. 2019 doi:10.4252/wjsc.v11.i9.594.

-Nerve growth factor induces proliferation and aggressiveness in prostate cancer cells. Di Donato M, Cernera G, Migliaccio A, Castoria G. Cancers (Basel). 2019 doi: 10.3390/cancers11060784.

-Androgens Induce Invasiveness of Triple Negative Breast Cancer Cells Through AR/Src/PI3-K Complex Assembly. Giovannelli P*, **Di Donato M***, et al., Sci Rep. 2019. *****equally contributed

-The Androgen Receptor in Breast Cancer. P. Giovannelli, **M. Di Donato**, Get al.,. Front. Endocrinol., 2018

-Cross-talk between androgen receptor and nerve growth factor receptor in prostate cancer cells: implications fora new therapeutic approach. **Di Donato M**, et al., Cell Death Discov. 2018

-Estrogens and their receptors in prostate cancer: therapeutic implications. Di Zazzo E, Galasso, Giovannelli P, **Di Donato M**, Castoria G. Front Oncol. 2018 doi:10.3389/fonc.2018.00002

-Bisphenol A induces cell cycle arrest in primary and prostate cancer cells through EGFR/ERK/p53 signaling pathway activation, Oncotarget, 2017 Bilancio A*., Bontempo P*., **Di Donato M***., et al., doi: 10.18632/oncotarget.23360 **equally contributed*

-Recent advances on bisphenol-A and endocrine disruptor effects on human prostate cancer, Molecular andCellular Endocrinology, Di Donato, M., et al., (2017) http://dx.doi.org/10.1016/j.mce.2017.02.045

-Prostate cancer stem cells: the role of androgen and estrogen receptors. E. Di Zazzo, G. Galasso, P. Giovannelli, **M. Di Donato**, et al.,. Oncotarget Oct 2015

-Androgen receptor targeted conjugate for bimodal photodynamic therapy of prostate cancer in vitro. Rapozzi V, Ragno D, Guerrini A, Ferroni C, Pietra ED, Cesselli D, Castoria G, **Di Donato M**, et al.,.Bioconjug Chem. 2015 Aug;26:1662-1671.

-The dual role of androgen receptor in mesenchymal cells. Giovannelli P., **Di Donato M.,** et al Receptors & Clinical Investigation 2015;

-Cross talk between androgen receptor/ filamin a and trka regulates neurite outgrowth in PC12 cells. M. Di Donato, et al., Mol. Biol. Cell mbc. E14-09-1352; 2015; doi:10.1091/mbc.E14-09-1352

-The dual role of androgen receptor in mesenchymal cells. Giovannelli P., **Di Donato M** et al.,. Receptors & Clinical Investigation 2015

-**Non-genomic androgen action regulates proliferative/migratory signaling in stromal cells. Di Donato M.,** et al.,.Front Endocrinol (Lausanne). 2015

-Role of non-genomic androgen signalling in suppressing proliferation of fibroblasts and fibrosarcoma cells. Castoria G., Giovannelli P., **Di Donato M**., et al., Cell Death and Disease (2014)

-Analysis of the androgen receptor/filamin a complex in stromal cells. Giovannelli P, **Di Donato M**, AuricchioF, Castoria G. Methods Mol Biol. 2014.

-A new avenue towards androgen receptor pan-antagonists: C2-steric hindered substitution of hydroxy-propanamides. Guerrini A, Tesei A, Ferroni C, Paganelli G, Zamagni A, Carloni S, **Di Donato M**, et al.,. J Med Chem. 2014

-Prolonged exposure to (R)-bicalutamide generates a LNCaP subclone with alteration of mitochondrial genome. Pignatta S, Arienti C, Zoli W, **Di Donato M**, et al., Mol Cell Endocrinol. 2014

-Targeting androgen receptor/Src complex impairs the aggressive phenotype of human fibrosarcoma cells. Castoria G, Giovannelli P, **Di Donato M**, et al.,PLoS One. 2013

-Effect of Small Molecules Modulating Androgen Receptor (SARMs) in Human Prostate Cancer Models. Tesei A, Leonetti C, **Di Donato** M, et al., PLoS One. 2013;

-Nonsteroidal Androgen Receptor Ligands: Versatile Syntheses and Biological Data. Varchi G, Guerrini A, Tesei A, Brigliadori G, Bertucci C, **Di Donato M**, Castoria G. ACS Medicinal Chemistry Letters, 2012.

-Polyproline and Tat transduction peptides in the study of the rapid actions of steroid receptors. Migliaccio A, Castoria G, de Falco A, Bilancio A, Giovannelli P, **Di Donato M**, et al., Steroids, 2012

-Targeting rapid action of sex-steroid receptors in breast and prostate cancers. Giovannelli P, **Di Donato M**, et al., F. Front Biosci (Elite Ed). 2012

-Targeting rapid action of sex steroid receptors in breast and prostate cancers. Giovannelli P, **Di Donato M**, et al.,. Front Biosci. 2011

-Steroid signaling activation and intracellular localization of sex steroid receptors. Giraldi T, Giovannelli P, **Di Donato M**, et al., J Cell Commun Signal. 2010

-Non genomic action of sex steroids: more questions than answers. Advances in Rapid Sex-Steroid Action New Challenges and New Chances in Breast and Prostate Cancers; 978-1-4614-1763-7; Springer; Vol. 1; Pagg. 1-15 Castoria G, Migliaccio A, Bilancio A, Giovannelli P, **Di Donato M**, Auricchio F.

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