

Debora Bencivenga

RTD A

Department of Precision Medicine

School of Medicine

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Current Accadematic Position

Since 2018 Researcher (RTD A) S.S.D. BIO/10, Department of Precision Medicine, School of Medicine, University of

Campania "Luigi Vanvitelli".

2018-2023

Researcher to determined time (RTDA), art. 24, co 3, l. a, L. 240/2010, VALERE Program, (S.C. 05/E1- S.S.S. BIO/10 - Biochemistry) D.R. n. 767, 14.11.2017- Department of Precision Medicine, University of Campania "L. Vanvitelli".

Scientific Interests

Dr. Bencivenga main scientific interests fall in the field of basic biochemistry, cellular and molecular biology.

She has long been interested at the mechanisms of regulation of the division cycle in normal and transformed cells. In an initial phase of her studies (2005-2006), he devoted himself to the study of the retinoic acid on neuroblastoma cell line proliferation and differentiation. Subsequently, she focused on the fundamental mechanisms of transcriptional, translational and post-translational control of cyclin-dependent kinase inhibitors of the Cip / Kip family, p27Kip1 and p57Kip2, and the relevance of these processes in the proliferation and differentiation of normal and cancer cells. Particular attention was focused on the identification and characterization of post-synthetic modifications, in particular phosphorylation, and their role in the fundamental processes for the cell. From 2014 to date, it deals with the characterization of mutations of the CDKN1B gene found in human tumours and the consequences of these gene aberrations (mostly missense mutations) on metabolism, post-synthetic modifications and function of the p27Kip1 protein.

Job-related skills

Chemistry of Proteins (cellular extract preparation (total extracts, cytoplasmic and nuclear extracts, microtubules purification, centrosomes purification), SDS-PAGE 1D and 2D, in vitro enzymatic assays

Molecular Biology (Nucleic acid extraction, PCR, RT-PCR, qRT-PCR, Cloning, Mutagenesis)

Cellular Biology (primary and cell line propagation, Transfection, human dermal Fibroblast and MSCs isolation)

PUBLICATIONS

1)Borriello A., Cucciolla V., Criscuolo M., Indaco S., Oliva A., Giovane A., Bencivenga D., Iolascon A., Zappia V., and Della

Ragione F. Retinoic Acid induces p27Kip1 nuclear accumulation by modulating its phosphorylation. Cancer research 2006;

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2)Cucciola V., Borriello A., Criscuolo M., Sinisi AA., Bencivenga D., Tramontano A., Scudieri AC., Oliva A., Zappia V.,

Della Ragione F. Histone deacetylase inhibitors upregulate p57Kip2 level by enhancing its expression through Sp1

transcription factor. *Carcinogenesis*. 2008 Mar;29(3):560-7. I.F. 5,266

3)Borriello A, Caldarelli I, Bencivenga D, Cucciolla V, Oliva A, Usala E, Danise P, Ronzoni L, Perrotta S, Della Ragione F.

p57Kip2 is a downstream effector of BCR-ABL kinase inhibitors in chronic myelogenous leukemia cells. *Carcinogenesis*.

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4)Borriello A, Bencivenga D, Criscuolo M, Caldarelli I, Cucciolla V, Tramontano A, Borgia A, Spina A, Oliva A, Naviglio S,

Della Ragione F. Targeting p27(Kip1) protein: its relevance in the therapy of human cancer. *Expert Opin Ther Targets*.

2011. I.F. 4,901

5)Borriello A, Caldarelli I, Bencivenga D, Criscuolo M, Cucciolla V, Tramontano A, Oliva A, Perrotta S, Della Ragione F.

p57(Kip2) and cancer: time for a critical appraisal. *Mol Cancer Res*. 2011 Oct;9(10):1269-84. Epub 2011 Aug 4.

PMID:21816904 I.F. 4,453

6)Borriello A, Caldarelli I, Basile MA, Bencivenga D, Tramontano A, Perrotta S, Della Ragione F, Oliva A. The tyrosine

kinase inhibitor dasatinib induces a marked adipogenic differentiation of human multipotent mesenchymal stromal cells.

PLoS One. 2011;6(12):e28555. Epub 2011 Dec 2.PMID:22164306 I.F. 3,534

7)Borriello A, Bencivenga D, Caldarelli I, Tramontano A, Borgia A, Pirozzi AV, Oliva A, Della Ragione F. Resveratrol and

cancer treatment: is hormesis a yet unsolved matter? *Curr Pharm Des*. 2013;19(30):5384-93. Review. PMID:23394084

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8)Perrotta S1, Stiehl DP, Punzo F, Scianguetta S, Borriello A, Bencivenga D, Casale M, Nobili B, Fasoli S, Balduzzi A,

Cro L, Nytko KJ, Wenger RH, Della Ragione F. Congenital erythrocytosis associated with gain-of-function HIF2A gene

mutations and erythropoietin levels in the normal range. *Haematologica*. 2013 Oct;98(10):1624-32. doi: 10.3324/haematol.2013.088369. Epub 2013 May 28. PMID: 23716564 I.F. 5,868

- 9) Borriello A, Bencivenga D, Caldarelli I, Tramontano A, Borgia A, Zappia V, Della Ragione F. Resveratrol: from basic studies to bedside. *Cancer Treat Res.* 2014;159:167-84. doi: 10.1007/978-3-642-38007-5_10. Review. PMID: 24114480
- 10) Caldarelli I, Speranza MC, Bencivenga D, Tramontano A, Borgia A, Pirozzi AV, Perrotta S, Oliva A, Della Ragione F, Borriello A. Resveratrol mimics insulin activity in the adipogenic commitment of human bone marrow mesenchymal stromal cells. *Int J Biochem Cell Biol.* 2015 Jan 3;60C:60-72; I.F. 4,240
- 11) Bencivenga D, Tramontano A, Borgia A, Negri A, Caldarelli I, Oliva A, Perrotta S, Della Ragione F, Borriello A. p27Kip1 serine 10 phosphorylation determines its metabolism and interaction with cyclin-dependent kinases. *Cell Cycle.* 2014;13(23):3768-82.; I.F. 4,565
- 12) Borriello A, Bencivenga D, Della Ragione F. The unpredictable consequences of CDKN1B/p27Kip1 mutations in cancer. *Cell Cycle.* 2015 Sep 17;14(18):2865-6. doi: 10.1080/15384101.2015.1076302. Epub 2015 Jul 29; I.F. 3,952
- 13) A. Borriello, S. Naviglio, D. Bencivenga, I. Caldarelli, A. Tramontano, M. Speranza, E. Stampone, L. Sapiro, A. Negri, A. Oliva, A. A. Sinisi, A. Spina, and F. Della Ragione. Histone Deacetylase Inhibitors Increase p27Kip1 by Affecting Its Ubiquitin-Dependent Degradation through Skp2 Downregulation. *Oxidative Medicine and Cellular Longevity.* 2016;2016:2481865. doi: 10.1155/2016/2481865. Epub 2015 Nov 22; I.F. 4,344
- 14) Borriello A, Caldarelli I, Speranza MC, Scianguetta S, Tramontano A, Bencivenga D, Stampone E, Negri A, Nobili B, Locatelli F, Perrotta S, Oliva A, Della Ragione F. Iron overload enhances human mesenchymal stromal cell growth and hampers matrix calcification. *Biochim Biophys Acta.* 2016 Jun;1860(6):1211-23. doi: 10.1016/j.bbagen.2016.01.025. Epub 2016 Feb 3. I.F. 5,34
- 15) Borriello A, Caldarelli I, Bencivenga D, Stampone E, Perrotta S, Oliva A, Della Ragione F. Tyrosine kinase inhibitors and mesenchymal stromal cells: effects on self-renewal, commitment and functions. *Oncotarget.* 2017 Jan 17;8(3):5540-5565. doi: 10.18632/oncotarget.12649. Review I.F. 5,168

- 16) Bencivenga D, Caldarelli I, Stampone E, Mancini FP, Balestrieri ML, Della Ragione F, Borriello A. p27Kip1 and human cancers: A reappraisal of a still enigmatic protein. *Cancer Lett.* 2017 Sep 10;403:354-365. doi: 10.1016/j.canlet.2017.06.031. Review I.F. 6,375
- 17) Casale M, Borriello A, Scianguetta S, Roberti D, Caiazza M, Bencivenga D, Tartaglione I, Ladogana S, Maruzzi M, Della Ragione F, Perrotta S. Hereditary hypochromic microcytic anemia associated with loss-of-function DMT1 gene mutations and absence of liver iron overload. *Am J Hematol.* 2017 Nov 27. doi: 10.1002/ajh.24988. I.F. 5,275
- 18) Stampone E, Caldarelli I, Zullo A, Bencivenga D, Mancini FP, Della Ragione F, Borriello A. Genetic and Epigenetic Control of CDKN1C Expression: Importance in Cell Commitment and Differentiation, Tissue Homeostasis and Human Diseases. *Int J Mol Sci.* 2018 Apr 2;19(4). pii: E1055. doi: 10.3390/ijms19041055. Review I.F. 3,687