Curriculum Vitae Dr. Loredana Moro

Name: Loredana Moro
Date of Birth: December 11, 1971
Position: Researcher
E-mail: l.moro@ibbe.cnr.it

EDUCATION AND TRAINING

1995 "Diploma di Laurea" in Biological Sciences (biochemistry and molecular biology orientation) (110/110 *cum laude*), Faculty of Science, University of Bari, Bari, Italy

1998 "Diploma di Specializzazione" in Biotechnological Applications (50/50 *cum laude*), Faculty of Science, University of Bari, Bari, Italy

1999-2000 Research training, Department of Pathology, Yale University School of Medicine, New Haven, CT, USA. *Field of Study*: cell biology/cell signaling

21/03/2003 PhD in Biochemistry and Molecular Biology, Department of Biochemistry and Molecular Biology, Faculty of Science, University of Bari, Italy
Field of Study: cell biology/molecular biology/biochemistry

PROFESSIONAL EXPERIENCES

12/2001-to date CNR Research Investigator, Institute of Biomembranes and Bioenergetics (IBBE), Bari, Italy

2000-02/2001 Doctoral fellow, Department of Pathology, Yale University School of Medicine, New Haven (CT, USA)

10/2002 Visiting scientist in the Department of Cancer Biology, UMass Medical School, Worcester (MA, USA)

04/2005 Visiting Scientist in the Department of Pathology and Laboratory Medicine, University of Rochester-School of Medicine and Dentistry, Rochester (NY, USA)

12/2005-01/2006 Visiting Scientist in the Department of Pathology and Laboratory Medicine, University of Rochester-School of Medicine and Dentistry, Rochester (NY, USA)

05-06/2006 Visiting Assistant Professor, Department of Pathology and Laboratory Medicine, University of Rochester School of Medicine and Dentistry, Rochester (NY, USA)

01/2007 Visiting Scientist, Department of Pathology, UT Southwestern Medical Center, Dallas (TX, USA)

01/2007 Nomination as INSERM (Institut National de la Santé et de la recherche médicale, France) Expert for evaluation of projects

03/2008-03/2009 Visiting Assistant Professor, Department of Urology, University of Texas Southwestern Medical Center, Dallas (TX, USA)

05/2010-10/2010 Visiting Assistant Professor, Department of Urology, University of Texas Southwestern Medical Center, Dallas (TX, USA)

11/2010-12/2010 Visiting Assistant Professor, Department of Urology, University of Texas Southwestern Medical Center, Dallas (TX, USA)

01/2012-08/2012 Visiting Scientist, Department of Pathology, NYU Medical Center, New York (NY, USA) Prof. Michele Pagano

10/2012-10/2013 Visiting Scientist, Department of Pathology, NYU Medical Center, New York (NY, USA) Prof. Michele Pagano

09/2014-07/2015 Visiting Scientist, Department of Pathology, NYU Medical Center, New York (NY, USA) Prof. Michele Pagano

MATERNITY LEAVES

04/2009-1/2010
1/2011-9/2011

HONORS AND GRANTS

1995-1998 Fellowship from the University of Bari to attend the "Scuola di Specializzazione in Applicazioni Biotecnologiche", Bari, Italy

1999 Fellowship from the CNR to perform a research project ("Role of the β1C integrin in prostate cancer") at the Department of Pathology, School of Medicine, Yale University (CT, USA)

2003 Co-Investigator, "Regulation of beta1 integrin expression in prostate cancer cells", AIRC (Italian Association for Cancer Research) grant, Italy

2004-2007 Co-Investigator, "Bioenergetic and apoptotic systems of mitochondria: genomics, proteomics, cellular homeostasis and physiopathology", MIUR (Ministry of Education, University and Research) grant, Italy

2006 Award "Short-Term Mobility Program 2006" from CNR to perform a research project in the Department of Pathology and Laboratory Medicine, University of Rochester, School of Medicine and Dentistry, Rochester (NY, USA)

2010 Co-PI, DOD grant PC093692 "Suppression of BRCA2 by Mutant Mitochondrial DNA in Prostate Cancer"

2011-2013 PI, Coordinator of the IBBE's operative unit of the PRIN grant 2009R8LJPS, "Integrin signaling involved in the modulation of invadopodia activity during cancer cell migration and invasion"

2011-2015 PI, Coordinator of the IBBE (Institute of Biomembranes and Bioenergetics, CNR) operative unit for the MERIT Project "Involvement of mitocondrial homeostasis in neoplastic transformation and apoptosis" (RBNE08YFN3_005)

2011-2015 Co-investigator, Ministero dell'Economia e delle Finanze/CNR progetto "FaReBio di Qualità"

2015-2017 PI, Project awarded by "Fondazione Cassa di Risparmio di Puglia" Title: "Identificazione di molecole attive per lo sviluppo di nuovi farmaci anti-tumorali contro il carcinoma di prostata"

RESEARCH ACTIVITY

Dr. Moro investigates the role of mitochondrial dysfunctions in modulating expression of tumor suppressor genes, such as BRCA2, anchorage-dependent growth, invasion and resistance to apoptotic stimuli during neoplastic transformation and progression. She has demonstrated that large mitochondrial DNA deletions or depletion may promote prostate cancer progression to a highly malignant and apoptosis-resistant phenotype through activation of the PI3kinase/Akt signaling pathway. Recently, Dr. Moro has demonstrated that mitochondrial DNA deletions increase the sensitivity of prostate cancer cells to PARP inhibitors by suppressing BRCA2 protein levels. Moreover, she has provided evidence that loss of the tumor suppressor protein BRCA2 promotes resistance to anoikis.

Overall, Dr. Moro's studies are aimed at understanding the molecular basis of neoplastic transformation and progression with a particular interest to the identification of signaling pathways/molecules selectively activated/inactivated in cancer cells that might represent the target of innovative therapeutic strategies.

COLLABORATIONS

- Department of Pathology, NYU Langone Medical Center (New York, NY, USA)
- Department of Urology, UT Southwestern Medical Center (Dallas, TX, USA)
- Department of Radiology, UT Southwestern Medical Center (Dallas, TX, USA)
- IEOS-CNR, Napoli
- Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy
- Section of Pathology, Oncology and Experimental Biology, Laboratory for Technologies of Advanced Therapies (LTTA), Department of Morphology, Surgery and Experimental Medicine, University of Ferrara, Ferrara, Italy

REVIEWER

Cancer Research
Clinica Chimica Acta
Life Sciences
Regulatory Peptides
Surgical Oncology
PLOS One
Molecular Cancer Therapeutics

PUBLICATIONS (2009-2015)

1. **Moro L**, Guaragnella N, Giannattasio S. (2015) Silencing of *BRCA2* to identify novel BRCA2-regulated biological functions in cultured human cells. ***J Vis Exp.*** 2015 Aug 12; 102

2. Guaragnella N, Giannattasio S, **Moro L**. (2014) Mitochondrial dysfunction in cancer chemoresistance. ***Biochem Pharmacol*** 92: 62-72

3. Guaragnella N, Marra E, Galli A, **Moro L**, Giannattasio S. (2014) Silencing of BRCA2 decreases anoikis and its heterologous expression sensitizes yeast cells to acetic acid-induced programmed cell death. ***Apoptosis*** 19: 1330-41

4. Tsai YS, Lai CL, Lai CH, Chang KH, Wu K, Tseng SF, Fazli L, Gleave M, Xiao G, Gandee L, Sharifi N, **Moro L**, Tzai TS, Hsieh JT. (2014) The role of homeostatic regulation between tumor suppressor DAB2IP and oncogenic Skp2 in prostate cancer growth. ***Oncotarget*** 5: 6425-36

5. Guaragnella N, Palermo V, Galli A, **Moro L**, Mazzoni C, Giannattasio S. (2014) The expanding role of yeast in cancer research and diagnosis: insights into the function of the oncosuppressors p53 and BRCA1/2. ***FEMS Yeast Res*** 14: 2-16

6. Giannattasio S, Guaragnella N, Arbini AA, **Moro L**. (2013) Stress-related mitochondrial components and mitochondrial genome as targets of anticancer therapy. ***Chem Biol Drug Des*** 81: 102-112

7. Arbini AA, Guerra F, Greco M, Marra E, Gandee L, Xiao G, Lotan Y, Gasparre G, Hsieh JT, **Moro L.** (2013) Mitochondrial DNA depletion sensitizes cancer cells to PARP inhibitors by translational and post-translational repression of BRCA2. ***Oncogenesis*** 2: e82

8. Antelmi E, Cardone RA, Greco MR, Rubino R, Di Sole F, Martino NA, Casavola V, Carcangiu M, **Moro L**, Reshkin SJ. (2013) ß1 integrin binding phosphorylates ezrin at t567 to activate a lipid raft signalsome driving invadopodia activity and invasion. ***PLOS One*** 8: e75113

9. Ro S, Ma HY, Park C, Ortogero N, Song R, Hennig GW, Zheng H, Lin YM, **Moro L**, Hsieh JT, Yan W. (2013) The mitochondrial genome encodes abundant small noncoding RNAs. ***Cell Res*** 23: 759-74

10. de Bari, **Moro L**, Passarella S. (2013) Prostate cancer cells metabolize d-lactate inside mitochondria via a d-lactate dehydrogenase which is more active and highly expressed than in normal cells. ***Febs Lett*** 587: 467-73

11. Arbini AA, Greco M, Yao JL, Bourne P, Marra E, Hsieh JT, di Sant'agnese PA, **Moro L.** (2011) Skp2 Overexpression Is Associated with Loss of BRCA2 Protein in Human Prostate Cancer. ***Amer J Pathol*** 178: 2367-2376

12. **Moro L**, Arbini AA, Hsieh JT, Ford J, Simpson ER, Hajibeigi A, Oz OK. (2010) Aromatase deficiency inhibits the permeability transition in mouse liver mitochondria. ***Endocrinology*** 151: 1643-1652

13. Goel HL, **Moro L**, Murphy-Ullrich JE, Hsieh CC, Wu CL, Jiang Z, Languino LR. (2009) Beta1 integrin cytoplasmic variants differentially regulate expression of the antiangiogenic extracellular matrix protein thrombospondin. 1. ***Cancer Res*** 69: 5374-5382

14. **Moro L**, Arbini AA, Yao JL, di Sant'Agnese PA, Marra E, Greco M. (2009) Mitochondrial DNA depletion in prostate epithelial cells promotes anoikis resistance and invasion through activation of PI3K/Akt2. ***Cell Death Differ*** 16: 571-583