Simona Martinotti

Curriculum vitae

BIO AND EDUCATION

The main focus of Dr. Simona Martinotti's research is the understanding of natural products effects in cancer and tissue regeneration, especially epithelial-to-mesenchymal transition, working at receptor, signal transduction and genomic levels.

The above topic has been applied to the study of malignant mesothelioma (MMe), a cureless, chemoresistant cancer. Research is focused on the development of new therapy based on synergistic mixtures of compounds generally known as active nutrients.

Dr. Martinotti has found a novel synergistic combination of ascorbate with epigallocatechin-3-gallate (EGCG) and gemcitabine which in vitro has been found to induce apoptosis.

She has also provided the first demonstration of T-type Ca2+ channel expression in MMe cells and, concomitantly, has defined a novel mechanism of action for EGCG.

Another field of Dr. Martinotti's work concerns mechanisms in wound repair processes. Dr. Martinotti has provided a characterization of the mechanism of action of a platelet preparation that is currently used in clinical settings on an empirical basis. She has also observed the induction of epithelial-to-mesenchymal transition in keratinocytes under honey exposure, thus putting the basis for a pharmacological characterization of this old empirically remedy.

UNIVERSITY CAREER

2013-	Contract Professor, DiSIT, Università del Piemonte Orientale.
2012-	Post-doc, DiSIT, Università del Piemonte Orientale.
2012	PhD in Scienze Ambientali (acque interne e agroecosistemi), XXIV ciclo
2008	Laurea specialistica in Scienze Biologiche Applicate, Università del Piemonte Orientale, *summa cum laude.*
2006	Laurea triennale in Biologia, Università del Piemonte Orientale,

SCIENTIFIC POSITIONS

2016-	Editorial Board Member of Journal of Cell
2015-	Editorial Board Member of Cancer Research Journal
2015-	Editorial Board Member of Journal of Stem Cells Research, Reviews & Reports
2014-	Associate Editor of Journal of Integrated OMICS
2011-	Socio Associazione Biologia Cellulare e del Differenziamento (ABCD)
2010-	Marquis Who's Who in the World Edition Member
2009-	Socio Associazione Italiana Colture Cellulari (AICC)

MAIN FIELDS OF INTEREST

1. Cell and Molecular Biology of Cancer
2. Nutraceuticals
3. Tissue Regeneration and wound repair
4. Use of natural products
5. Honey and propolis in wound repair.

CURRENT ISSUES OF RESEARCH

1. **Wound repair and regeneration process**

   This scientific activity is conducted on various models and employs a wide range of methodologies. In particular, Simona Martinotti utilized an *in vitro*, human wound-healing model able to investigate the effects of various agents and experimental conditions on the wound re-epithelialization process. This activity is currently using both platelet derivatives and natural compounds, as experimental tools, in order to perform a more in-depth analysis, in terms of cell biology and proteomics, of the mechanisms of wound healing.

2. **Honey: the healing secret of bees**

   This project is undertaken to add value to the existing honey resources by developing products with therapeutic benefit (i.e. for the treatment and management of moist wounds such as burns and ulcers). This process involves the identification of the appropriate floral sources, the evaluation of the "active" agent(s), and the understanding of cellular and molecular events occurring during wound repair and regeneration processes induced by honey.

CURRENT FUNDED PROJECTS

BANDO	TITOLO DEL PROGETTO
2016-2018	Research on Ageing diseases 2015 – Cariplo Grant "Molecular linkage between translation, epigenetic changes and metabolism and the development of insulin resistance" PI: Prof. Stefano Biffo (UniMI), Prof. Elisa Robotti (UPO) Fellow and science dissemination responsible

TOP FIVE PAPERS

1. Simona Martinotti et al.,
   HMGB1 osteo-modulatory action on osteosarcoma SaOS-2 cell line: an integrated study from biochemical and -omics approaches,
   Journal of Cellular Biochemistry in press
   doi: 10.1002/jcb.25549
2. Marcelo Manfredi*, Simona Martinotti* et al.,
   Journal of Proteomics in press
   doi: 10.1016/j.jprot.2016.02.021.
   *equal contribution
3. Simona Martinotti et al.,
   Platelet-rich plasma induces mixed osteogenic/osteoclastogenic phenotype in osteosarcoma SaOS-2 cells: role of TGF-beta,
   Current Pharmaceutical Biotechnology 2014, 15(2): 120-126.
4. Simona Martinotti et al.,
   Synergistic combination of ascorbate/gemcitabine/epigallocatechin-3-gallate induces cell cycle deregulation and apoptosis in mesothelioma cells.
   Toxicology and Applied Pharmacology, 2014, 274(1):35-41.
   doi: 10.1016/j.taap.2013.10.025
5. Elia Ranzato*, Simona Martinotti*, et al.,
   Epigallocatechin-3-galate induces mesothelioma cell death via H2O2-dependent-T-type Ca^{2+} channel opening,
   Journal of Cellular and Molecular Medicine 2012,16(11):2667-78.
   doi: 10.1111/j.1582-4934.2012.01584.x
   *equal contribution

AWARDS

1. 2015: 65th Lindau Nobel Laureate Meetings. 28 giugno – 3 luglio 2015.
2. 2014: Exploit internazionale di un post doc nel 2013 – Università del Piemonte Orientale
3. 2013: Lush Prize Award – Young Researcher Category

FURTHER INFORMATION

- Co-Founder and Organizer,
  Caffè Scienza Alessandria, https://caffescienza.wordpress.com/
- Founder and member of Associazione culturale Camagna Paesaggi Arte e Cultura.
- Teacher in the field of "science, technology and the common good" of the University of the Third Age (Unitre) of Alessandria.