

MOLECULAR BIOLOGY AND MARINE BIOTECHNOLOGY:



In the DISTAV molecular biology and marine biotechnology lab we perform basic and applied research on the following topics:

- Study of the molecular evolution of cell differentiation mechanisms and inflammatory response in primitive animal models (porifera and cnidarians)
- Study of biosilicification mechanisms in porifera (also carried out in collaboration with the University of Freiberg, Germany)
- Study and characterization of the extracellular matrix of horny sponges (also carried out in collaboration with the University of Freiberg and the University of Tel Aviv)
- Realization of innovative biomaterials from extracellular matrix of sponges and cnidarians for applications in the biomedical field and in regenerative medicine (In collaboration with Tel Aviv University and with industry industries)
- Biocompatibility and cytotoxicity tests on biomaterials of marine origin for pharmaceutical applications (in collaboration with the DICCI of the University of Genoa)
- "Drug discovery" activities aimed at the isolation of bioactive molecules from marine and terrestrial organisms for cosmeceutical, nutraceutical and pharmacological purposes (Collaborations with the ECOLOGY and MYCOLOGY sectors of DISTAV)
- Research in the field of molecular and cellular biology of inflammatory processes in higher organisms (mammals) aimed at elucidating the mechanisms of onset of pathologies derived from inhalations of micro and nanoparticles of various kinds, trying to establish the evolutionary mechanisms of these responses and to formulate new ones predictive models of toxicity through in vitro 3D methods alternative to animal experimentation (In collaboration with DIMES and the Geology sector of DISTAV).

Keywords: Marine invertebrates, Sponges, Collagen, Cytokines, Inflammation, drug discovery, tissue engineering

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MIUR PRIN2017 project "Fibers", WEBSITE: https://fibers.unimore.it/?page_id=1106

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