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**Renata Pasqualini**

University of New Mexico Health Sciences Center, USA

Ligand-directed targeting and molecular imaging based on vascular zip codes revealed by *in vivo* phage display

We have developed *in vivo* phage display, a functional peptide and antibody screening established in animal models and later in patients, to isolate homing ligands and enable subsequent identification of tissue-specific receptors. Systematic implementation of this strategy advanced the construction of a comprehensive map of vascular markers in each organ, tissue or disease. Indeed, our pioneering discoveries of tissue-specific and angiogenesis-related receptors (vascular "ZIP codes") may lead to a new ligand-directed pharmacology. Over the last few years our efforts have been focused on characterizing the vascular diversity associated with individual cancer patients using antibody-based drug discovery in a precision medicine context and optimizing targeted nanoparticles for drug delivery without off-target toxicity. These new programs represent fertile ground for discovery and drug development.

Biography

Renata Pasqualini is the Professor of Medicine and Cancer Experimental Therapeutics, Associate Director for Translational Research and Chief of the Division of Molecular Medicine at the University of New Mexico Comprehensive Cancer Center. She has received her PhD from the Ludwig Institute for Cancer Research and did Postdoctoral training at Harvard Medical School and at the Burnham Institute in La Jolla, CA. In addition to her activities as the Principal Investigator and Head of a large research laboratory, first at the University of Texas MD Anderson Cancer Center and presently at the University of New Mexico Health Sciences Center, she serves as a Board Member, Reviewer and Chair in multiple review panels for the National Institutes of Health, the Department of Defense, the Department of Energy along with several other American, Asian and European Foundations that support basic and clinical research. She is a Referee for several top journals featuring cutting edge research and technology and has published over 200 papers.

rpasqual@salud.unm.edu