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Rho and Wnt signals intersecting at the heart of the go or grow dichotomy

The Laboratory of Cell Structure & Signal Integration investigates the molecular and genetic underpinnings of cell structure. Our goal is to gain insight into the machinery governing the spatial and temporal organization of the intracellular signal transduction networks responsible for the interpretation of the extracellular cues that guide development and immunity. The lab places a basic research focus on the intersection of Rho and Wnt signaling to the nucleus and the cytoskeletal remodeling apparatus during the establishment and maintenance of polarity in adhesion and migration of cells emanating from the bone marrow. We place a translational focus on targeted therapies that reinforce and/or repair cell infrastructure. Our lead compounds in development are called Intramimics (IMMs). IMMs activate Rho-Formin signaling. To this end, we compare and contrast IMMs with two other agents known to stimulate Rho-formin signaling: tipifarnib and Revlimid in preclinical mouse models of myeloproliferative disease and amyotrophic lateral sclerosis.

Biography

Alberts earned B.A. and Ph.D. degrees at the University of California, San Diego and trained as a Postdoctoral Fellow at the Imperial Cancer Research Fund, London UK. He was an Assistant Research Biochemist at the University of California, San Francisco before joining the Van Andel Research Institute, where he is currently a Professor of Cancer and Cell Biology and Head of the Laboratory of Cell Structure and Signal Integration. Alberts is an author or co-author of over 60 publications. He is on the editorial boards of numerous journals, including Cancer Research, and has served as a Special Guest Editor of the recent *Biochimica et Biophysica Acta* Special Issue on Formins.

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