



Jim Martin, MD, PhD

Dr. Martin is an internationally recognized developmental and regenerative biologist who has made fundamental contributions to our understanding of development, disease, and regeneration. The ultimate goal of his work is to obtain an in depth understanding of how signaling pathways are connected to adult tissue regeneration in order to develop ways to treat congenital diseases and regenerate heart muscle and other adult tissues. He has authored more than 150 peer-reviewed papers in top journals such as Nature, Science, Cell, Developmental Cell, Plos Genetics, Development, and PNAS. His recent groundbreaking work on the Hippo pathway in heart size regulation is a landmark study that led to the insight that the Hippo pathway is an inhibitor of adult heart muscle regeneration. Dr. Martin's insights revealed new avenues for treatment of human heart failure. Dr. Martin has made fundamental insights into the role of the transcription factor Pitx2 in atrial fibrillation, the most common sustained arrhythmia in the human population. He made use of the mouse model to investigate Pitx2 in atrial homeostasis but also in left right asymmetric morphogenesis that is essential for human development. Dr. Martin's studies investigating Pitx2 function in craniofacial development provided insight into the molecular basis of Rieger syndrome. He uncovered a pivotal function for Bmp signaling in endothelial-mesenchymal transition and cardiac valve development. Dr. Martin's studies uncovered a novel role for canonical Wnt signaling in cardiac progenitor cell diversification. He found the first microRNA implicated in orofacial clefting. Most recently, Dr Martin's group discovered that Hippo signaling inhibits the cardiac injury response by maintaining the resting state of cardiac fibroblasts. Dr. Martin's studies are highly cited and also reported on by the lay media.