Cardiology Clinical/Translational /Basic Research Publications:

Total publications: 282
Original articles: 182
Reviews/Chapters: 100

Key Publications:


This paper is based on a novel discovery of a new BMP receptor antagonist that was isolated by chemical screening in a zebrafish model system, utilizing a library of compounds that were already approved for use in humans, and a readout that was based on the known ability of BMP to perturb the developmental morphogenic axis of zebrafish embryos. Following this discovery, a series of improvements in the initial compound were developed and utilized in a clever clinically relevant application to a rare bone ossification disorder that arises in children due to activating mutations in the BMP receptor. Paul Yu, on his own initiative, recognized this clinical niche application, and characterized a mouse model of the disease, which recapitulates key aspects of the disease phenotype. In a remarkable advance that has clear translational implications, he documented in this first author Nature Medicine paper that the onset of the bone defects was largely prevented, suggesting the clinical potential of this novel strategy. The work has led to a full scale medicinal chemistry effort to develop new specific BMP receptor antagonists (there are none know aside from this discovery to date), to take this work to children with this disorder, and to examine effects of these series of compounds in other diseases and biological systems where BMP signaling is known to play a pivotal role.


This study demonstrated that a combination of several lipid-related polymorphisms stratified individuals across clinically meaningful ranges of blood lipids and predicted risk for cardiovascular disease above and beyond traditional risk factors. We provided proof-of-concept that a panel of polymorphisms may have clinical application in risk prediction.

The ability to identify individuals who are at risk for sudden cardiac death (SCD) in the general population is poor. Although SCD risk has a heritable component, the extent to which the heritable component of more common forms of SCD might be due mutations or rare polymorphisms in cardiac ion channels is currently unknown. To address this question, this study sought to determine both the prevalence and function of mutations and rare coding sequence variants in 5 cardiac ion channel genes among cases of SCD drawn from 2 large prospective cohorts of women and men. The key finding was that the frequency of rare variants in the cardiac sodium channel was significantly higher in the SCD cases compared with controls. These data suggest that functionally significant rare variants in cardiac sodium channel may contribute to SCD risk in the general population.


This paper demonstrates the ability to sense inflammation in atherosclerotic plaques using clinical-type intravascular near-infrared fluorescence catheters for molecular imaging. This study provides a foundation for identifying high-risk, inflamed plaques.

Cardiovascular Research Center


AML1-ETO reprograms hematopoietic cell fate by downregulating scl expression, Yeh JR, Munson KM, Chao YL, Peterson QP, Macrae CA, Peterson RT., Development. 2008 Jan;135(2):401-10.


Coronary development is regulated by ATP-dependent chromatin remodeling component BAF250a, Huang, X., Gao, X., Trelles, R., Ruiz-Lozano, P., and Wang, Z. BAF180. 2008; Dev Biol. 319:258-266a


Proteolytic processing of cGMP-dependent protein kinase I mediates nuclear cGMP signaling in vascular smooth muscle cells, Sugiura T, Nakanishi H, Roberts JD Jr., Circ Res. 2008 Jul 3;103(1):53-60


**Chapters/Reviews/Editorials**


Polymorphisms and atrial fibrillation: sorting the wheat from the chaff, Ellinor PT, Milan DJ., Eur Heart J. 2008 Apr;29(7):843-5.


Heart Failure/Cardiac Transplantation


Semigran MJ. Phosphodiesterase type 5 inhibition: a support of the left ventricular assist bridge to transplant. Circ Heart Fail 2008;1;211-212.


Reviews/Editorial


**Translational Research/Biomarkers**


Rehman SU, Mueller T, and Januzzi JL. Characteristics of the Novel Interleukin Receptor Family Member ST2 in Patients with Acute Heart Failure. J Am Coll Cardiol, 2008;52(18):1458-65.


Editorials/Consensus Statements/Textbooks


NT-proBNP as a Biomarker in Cardiovascular Disease; Ed Bayes-Genis and Januzzi; Prous Scientific publishing, 2008.

Reviews


**Nuclear Cardiology**


**Preventive Cardiology**

11 Publications which are listed under CVRC publications

**Cardiac Arrhythmia**


Aleong, R; Heist EK; Ruskin, JN; Mansour, M. Integration of Intracardiac Echocardiography with Magnetic Resonance Imaging Allows Visualization of the Esophagus During Catheter Ablation of Atrial Fibrillation. Heart Rhythm 2008;5:1088.

Aryana A, Heist EK, D'Avila A, Holmvang G, Chevalier J, Ruskin JN, Mansour M. Pain and anatomical locations of radiofrequency ablation as predictors of esophageal


Mansour, M; Forleo, GB; Pappalardo, E; Heist, EK; Avella, A; Laurenzi, F; Di Girolamo, P; Bencardino,G; Dello Russo, A; Mantica, M; Ruskin, JN; Tondo, C. Initial Experience with the Mesh Catheter for Pulmonary Vein Isolation in Patients with Paroxysmal Atrial Fibrillation. Heart Rhythm 2008;5:1510-1516.


Chapters, Reviews, and Case Reports

Aleong RG, Milan DJ, Ellinor PT. The Diagnosis and Treatment of Cardiac Ion Channelopathies: Congenital Long QT Syndrome and Brugada Syndrome.


Blendea D and Singh JP. Electrical Activation of the Failing Heart. American Heart Association Pacing to support the failing heart (AHA series). Ellenbogen and Auricchio; 2008; pg 57-91.


*Chapters/Reviews/Editorials/Case Reports*


**Interventional Cardiology**


Chapters/Reviews/Editorials


Raffel OC, Akasaka T, Jang IK. Cardiac optical coherence tomography. Heart. 2008 Sep;94(9):1200-10.


Original Publications


25


Chapter/Reviews/Editorials/Case Reports


