| Date               | Title                                                                                           | Abstract                                                                                                                                                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 30, 2020      | Uncoupling DNA damage from chromatin damage to detoxify doxorubicin                           | The anthracycline doxorubicin (Doxo) and its analogs daunorubicin (Daun), epirubicin (Ep), and idarubicin (Ida) have been cornerstones of anticancer treatments.                                                                                                                                                                                                 |
| January 01, 2020   | Toward standardization of echocardiography for the evaluation of left ventricular function in adult rodents: a position paper of the ESC Working Group on Myocardial Function | Echocardiography is a reliable and reproducible method to assess non-invasively cardiac function in clinical and experimental research.                                                                                                                                                                                                     |
| January 01, 2020   | Commercial 4-dimensional echocardiography for murine heart volumetric evaluation after myocardial infarction | Background: Traditional preclinical echocardiography (ECHO) modalities, including 1-dimensional motion-mode (M-Mode) and 2-dimensional long axis (2D-U)                                                                                                                                                                                                 |
| January 01, 2020   | Sex differences in the evolution of left ventricle remodeling in rats with severe volume overload | Background: Aortic valve regurgitation (AR) results in left ventricle (LV) volume overload (VO) leading to its dilation and hypertrophy (H).                                                                                                                                                                                                        |
| January 01, 2020   | World Trade Center-Cardiorespiratory and Vascular Dysfunction: Assessing the Phenotype and Metabolome of a Murine Particulate Matter Exposure Model | Vascular changes occur early in the development of obstructive airways disease.                                                                                                                                                                                                                                                           |
| January 01, 2019   | Three-dimensional myocardial strain correlates with murine left ventricular remodelling severity post-infarction | Heart failure continues to be a common and deadly sequela of myocardial infarction (MI).                                                                                                                                                                                                                                               |
| January 01, 2018   | Improving the quality of preclinical research echocardiography: observations, training, and guidelines for measurement | Informal training in preclinical research may be a contributor to the poor reproducibility of preclinical cardiology research and low rates of translational success.                                                                                                                                                                              |
| January 01, 2013   | Quantification of Murine Pancreatic Tumors by High-Resolution Ultrasound                        | Ultrasonography is a powerful imaging modality that enables non-invasive, real time visualization of abdominal organs and tissues.                                                                                                                                                                                                           |
| September 09, 2020 | Vascular contributions to 16p11.2 deletion autism syndrome modeled in mice                     | While the neuronal underpinnings of autism spectrum disorder (ASD) are being unraveled, vascular contributions to ASD remain elusive.                                                                                                                                                                                                         |
| September 09, 2020 | Targeting the eCIRP/TREM-1 Interaction with a Small Molecule Inhibitor Improves Cardiac Dysfunction in Neonatal Sepsis | Background: Neonatal sepsis and the associated myocardial dysfunction remain a leading cause of infant mortality.                                                                                                                                                                                                                      |
| September 09, 2020 | Reduction of Polysaturated Fatty Acids with Tumor Progression in a Lean Non-Alcoholic Steatohepatitis-Associated Hepatocellular Carcinoma Mouse Model | Background and Aim: Non-alcoholic fatty liver disease (NAFLD) is the most common liver disease in Western countries.                                                                                                                                                                                                                      |
| July 01, 2020      | Identifying modifier genes for hypertrophic cardiomyopathy                                    | Background: Hypertrophic cardiomyopathy (HCM) severity greatly varies among patients even with the same HCM gene mutations.                                                                                                                                                                                                                 |
| May 29, 2020       | Thermodynamic interference with bile acid demicelleization reduces systemic entry and injury during cholestasis | Bile acids (BA), with their large hydrophobic steroid nucleus and polar groups are amphipathic molecules.                                                                                                                                                                                                                                       |
| May 01, 2020       | Melatonin ameliorates pressure overload-induced cardiac hypertrophy by attenuating Atg5-dependent autophagy and activating the Akt/mTOR pathway | Cardiac hypertrophy, including hypertension and valvular dysfunction, is a pathological feature of many cardiac diseases that ultimately leads to heart failure.                                                                                                                                                                 |
| May 01, 2020       | In Mice Subjected to Chronic Stress, Exogenous cBIN1 Preserves Calcium-Handling Machinery and Cardiac Function | Heart failure is an important, and growing, cause of morbidity and mortality.                                                                                                                                                                                                                                                          |
| Date         | Title                                                                 | Summary                                                                                                                                                                                                 |
|-------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 01, 2020| Sestrin2 modulates cardiac inflammatory response through maintaining redox homeostasis during ischemia and reperfusion | Ischemia heart disease is the leading cause of death world-wide and has increased prevalence and exacerbated myocardial infarction with aging.                                                                |
| May 01, 2020| Activation of Oxytocin Neurons Improves Cardiac Function in a Pressure-Overload Model of Heart Failure | This work shows long-term restoration of the hypothalamic oxytocin (OXT) network preserves OXT release, reduces mortality, cardiac inflammation, fibro.                                                   |
| April 01, 2020| Maresin Conjugates in Tissue Regeneration 1 Prevents Lipopolysaccharide-Induced Cardiac Dysfunction Through Improvement of Mitochondrial Biogenesis and Function | Mitochondrial dysfunction is increasingly considered as the center of pathophysiology in sepsis-induced cardiac dysfunction.                                                                                  |
| March 31, 2020| Empagliflozin Ameliorates Obesity-Related Cardiac Dysfunction by Regulating Sestrin2-Mediated AMPK-mTOR Signaling and Redox Homeostasis in High-Fat Induced Obese Mice | Sodium glucose co-transporter-2 inhibitors (SGLT2) have favorable cardiovascular outcomes in diabetic patients.                                                                                       |
| March 30, 2020| EXPRESS: Echocardiographic markers of pulmonary hemodynamics and right ventricular hypertrophy in rat models of pulmonary hypertension | Echocardiography is the gold standard non-invasive technique to diagnose pulmonary hypertension (PH).                                                                                                   |
| March 27, 2020| Ventricular remodeling in ischemic heart failure stratifies responders to stem cell therapy | Response to stem cell therapy in heart failure is heterogeneous, warranting a better understanding of outcome predictors.                                                                                |
| March 01, 2020| Bone marrow mesenchymal stem cells-derived exosomal microRNA-185 represses ventricular remodeling of mice with myocardial infarction by inhibiting SOCS2 | Objective: Recently, the function of microRNAs (miRNAs) has been clarified in human diseases, we aimed to identify the role of miR-185 in myocardial i                                                                 |
| March 01, 2020| Neurogranin regulates eNOS function and endothelial activation | Endothelial nitric oxide (NO) is a critical mediator of vascular function and vascular remodeling.                                                                                                       |
| March 01, 2020| Effects of external low intensity focused ultrasound on electrophysiological changes in vivo in a rodent model of common peroneal nerve injury | Non-invasive treatment methods for neuropathic pain are lacking.                                                                                                                                       |
| March 01, 2020| Low Intensity Focused Ultrasound Modulation of Vincristine Induced Neuropathy | Previously, we showed internal low intensity focused ultrasound (liFUS) improves nociceptive thresholds in rats with vincristine-induced neuropathy (V                                                                 |
| February 01, 2020| Design and characterization of a porous pouch to prevent peritoneal adhesions during in vivo vascular graft maturation | Vein grafts for coronary artery bypass are not available in more than 30% of patients due to prior use or systemic vascular diseases.                                                                       |
| February 01, 2020| Macrophage migration inhibitory factor increases atrial arrhythmogenesis through CD74 signaling | Macrophage migration inhibitory factor (MIF), a pleiotropic inflammatory cytokine, is highly expressed in patients with atrial fibrillation (AF).                                                               |
| February 01, 2020| Evaluation of the Crushed Sciatic Nerve and Denervated Muscle with Multimodality Ultrasound Techniques: An Animal Study | This study was aimed at evaluating the value of multimodality ultrasound techniques in the detection of crushed sciatic nerve and denervated muscle in                                                                 |
| February 01, 2020| Macrophage-Derived Exosomal Mir-155 Regulating Cardiomyocyte Pyroptosis and Hypertrophy in Uremic Cardiomyopathy | miR-155 was synthesized and loaded into exosomes in increased infiltration of macrophages in a uremic heart.                                                                                               |
| February 01, 2020| Empagliflozin attenuates ischemia and reperfusion injury through LKB1/AMPK signaling pathway | The beneficial effects of empagliflozin (EMPA) on cardiac functions during ischemia and reperfusion were characterized.                                                                                 |
| Date         | Title                                                                 | Abstract                                                                                     |
|--------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| January 31, 2020 | Nox2+ myeloid cells drive vascular inflammation and endothelial dysfunction in heart failure after myocardial infarction via angiotensin II receptor type 1 | Aims: Heart failure (HF) ensuing myocardial infarction (MI) is characterized by the initiation of a systemic inflammatory response. |
| January 01, 2020 | Ultrasound and magnetic resonance imaging for group stratification and treatment monitoring in the transgenic adenocarcinoma of the mouse prostate model | Background: The transgenic adenocarcinoma of the mouse prostate (TRAMP) is a widely used genetically engineered spontaneous prostate cancer model. |
| January 01, 2020 | 2,4-dienoyl-CoA reductase regulates lipid homeostasis in treatment-resistant prostate cancer | Despite the clinical success of Androgen Receptor (AR)-targeted therapies, reactivation of AR signalling remains the main driver of castration-resistance. |
| January 01, 2020 | Carbachol alleviates myocardial injury in septic rats through PI3K/AKT signaling pathway | OBJECTIVE: To explore the effect of carbachol on myocardial injury in septic rats, and to further study its influence on the phosphatidylinositol 3-kinase pathway. |
| January 01, 2020 | Transplantation of human induced pluripotent stem cell-derived cardiomyocytes improves myocardial function and reverses ventricular remodeling in infarcted rat hearts | Background: Human-induced pluripotent stem cell-derived cardiomyocytes (iPSC-CMs) have shed great light on cardiac regenerative medicine and specific applications. |
| January 01, 2020 | Trophoblast-induced spiral artery remodelling and uteroplacental haemodynamics in pregnant rats with increased blood pressure induced by heme oxygenase inhibition | Introduction: The aim of the present study was to determine the contribution of the heme oxygenase (HO) system to the adaptation of the uteroplacental circulation. |
| January 01, 2020 | CD105 is a prognostic marker and valid endothelial target for microbubble platforms in cholangiocarcinoma | Purpose: The current treatment outcomes in cholangiocarcinoma are poor with cure afforded only by surgical extirpation. |
| January 01, 2020 | Stromal Modulation and Treatment of Metastatic Pancreatic Cancer with Local Intraperitoneal Triple miRNA/siRNA Nanotherapy | Nanomedicines achieve tumor-targeted delivery mainly through enhanced permeability and retention (EPR) effect following intravenous (IV) administration. |
| January 01, 2020 | Endothelial Sirtuin 3 Dictates Glucose Transport to Cardiomyocyte and Sensitizes Pressure Overload Induced Heart Failure | BACKGROUND: Alterations of energetic metabolism are suggested to be an important contributor to pressure overload (PO)-induced heart failure. |
| January 01, 2020 | Improvement of Endothelial Dysfunction of Berberine in Atherosclerotic Mice and Mechanism Exploring through TMT-Based Proteomics | Atherosclerosis is a multifactorial vascular disease triggered by disordered lipid metabolism, characterized by chronic inflammatory injury, and initiates a complex series of events leading to endothelial dysfunction. |
| January 01, 2020 | ERBB2 drives YAP activation and EMT-like processes during cardiac regeneration | Cardiomyocyte (CM) loss after injury results in adverse remodelling and fibrosis, which inevitably lead to heart failure. |
| January 01, 2020 | Urocortin 2 Gene Transfer Improves Heart Function in Aged Mice | Prevalence of left ventricular (LV) systolic and diastolic dysfunction increases with aging. |
| January 01, 2020 | BOLD-MRI demonstrates acute placental and fetal organ hypoperfusion with fetal brain sparing in response to phenylephrine but not ephedrine | Introduction: We previously reported blood oxygen level dependent MRI (BOLD-MRI) for monitoring placental and fetal hemodynamic changes in mice following maternal treatment. |
| January 01, 2020 | The Novel P2X7 Receptor PKT100 Improves Right Ventricular Function and Survival in Pulmonary Hypertension | Background: Pulmonary hypertension (PH) is a life-threatening disease. |
| Date       | Title                                                                 | Summary                                                                 |
|------------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| January 01, 2020 | EXPRESS: Biventricular diastolic dysfunction, thrombocytopenia and red blood cell macrocytosis in experimental pulmonary arterial hypertension | Pulmonary arterial hypertension (PAH) is a fatal disease, where death is associated with right heart failure and reduced cardiorespiratory reserve. |
| January 01, 2020 | Cardiac, renal and uterine hemodynamics changes throughout pregnancy in rats with a prolonged high fat diet from an early age | OBJECTIVE: To examine whether the cardiac, renal and uterine physiological hemodynamic changes during gestation are altered in rats with an early and |
| January 01, 2020 | Isolation Methods for Human CD34 Subsets Using Fluorescent and Magnetic Activated Cell Sorting: an In Vivo Comparative Study | Introduction: Acute myocardial infarction (AMI) and resulting cardiac damage and heart failure are leading causes of morbidity and mortality worldwide. |
| January 01, 2020 | Myocardial protection by nanomaterials formulated with CHIR99021 and FGF1 | The mortality of patients suffering from acute myocardial infarction (AMI) is linearly related to the infarct size. |
| January 01, 2020 | Speckle-tracking echocardiography combined with imaging mass spectrometry assesses region-dependent alterations | Left ventricular (LV) contraction is characterized by shortening and thickening of longitudinal and circumferential fibres. |
| January 01, 2020 | Long-term atorvastatin or the combination of atorvastatin and nicotinamide ameliorate insulin resistance and left ventricular diastolic dysfunction in a murine model of obesity | Current studies aimed at investigating the association between atorvastatin therapy and insulin resistance (IR) appear to be controversial. |
| January 01, 2020 | Label-free photoacoustic and ultrasound imaging for murine atherosclerosis characterization | Dual-modality photoacoustic tomography (PAT) and 4D ultrasound (4DUS) imaging have shown promise for cardiovascular applications, but their use in mur |
| January 01, 2020 | Structural, functional, and molecular impact on the cardiovascular system in ApoE-/- mice exposed to aerosol from candidate modified risk tobacco products, Carbon Heated Tobacco Product 1.2 and Tobacco Heating System 2.2, compared with cigarette smoke | Aim: To investigate the molecular, structural, and functional impact of aerosols from candidate modified risk tobacco products (cMRTP), the Carbon Hea |
| January 01, 2020 | An implantable system for long-term assessment of atrial fibrillation substrate in unanesthetized rats exposed to underlying pathological conditions | Atrial fibrillation (AF) is a progressive arrhythmia with underlying mechanisms that are not fully elucidated, partially due to lack of reliable and a |
| January 01, 2020 | Clarithromycin inhibits autophagy in colorectal cancer by regulating the hERG1 potassium channel interaction with PI3K | We have studied how the macrolide antibiotic Clarithromycin (Cla) regulates autophagy, which sustains cell survival and resistance to chemotherapy in |
| January 01, 2020 | Substrate metabolism regulated by Sestrin2–mTORC1 alleviates pressure overload-induced cardiac hypertrophy in aged heart | Sestrin2 (Sesn2) is a stress sensor for the mammalian target of rapamycin complex 1 (mTORC1) pathway. |
| January 01, 2020 | Assessment of ICAM-1 N-glycoforms in mouse and human models of endothelial dysfunction | Endothelial dysfunction is a critical event in vascular inflammation characterized, in part, by elevated surface expression of adhesion molecules such |
| January 01, 2020 | PRMT1 promotes neuroblastoma cell survival through ATF5 | Aberrant expression of protein arginine methyltransferases (PRMTs) has been implicated in a number of cancers, making PRMTs potential therapeautic targ |
| January 01, 2020 | Fluorescent Silica Nanoparticles to Label Metastatic Tumor Cells in Mineralized Bone Microenvironments | During breast cancer bone metastasis, tumor cells interact with bone microenvironment components including inorganic minerals. |
| Date       | Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January   | **Vascular KATP channels protect from cardiac dysfunction and preserve cardiac metabolism during endotoxemia**                                                                                                                                                                                                                                                                                                                                                   |
| 01, 2020  | Abstract: KATP channels in the vasculature composed of Kir6.1 regulate vascular tone and may contribute to the pathogenesis of endotoxemia.                                                                                                                                                                                                                                                                                                                           |
| January   | **Ribonuclease 1 attenuates septic cardiomyopathy and cardiac apoptosis in a murine model of polymicrobial sepsis**                                                                                                                                                                                                                                                                                                                                            |
| 01, 2020  | Septic cardiomyopathy is a life-threatening organ dysfunction caused by sepsis.                                                                                                                                                                                                                                                                                                                                                                                     |
| January   | **Xenograft Tumor Volume Measurement in Nude Mice: Estimation of 3D Ultrasound Volume Measurements Based on Manual Caliper Measurements**                                                                                                                                                                                                                                                                                                         |
| 01, 2020  | Objectives: Volume measurement of subcutaneous xenograft tumors in nude mice models is an important metric to assess tumor growth or response to therapeutics.                                                                                                                                                                                                                                                                                                               |
| January   | **mTORC1 Deficiency Modifies Volume Homeostatic Responses to Dietary Sodium in a Sex-Specific Manner**                                                                                                                                                                                                                                                                                                                                                                 |
| 01, 2020  | Mechanistic target of rapamycin (mTOR) pathway plays a role in features common to both excess salt/aldosterone and cardiovascular/renal diseases.                                                                                                                                                                                                                                                                                                                   |
| January   | **Microenvironment stiffness requires decellularized cardiac extracellular matrix to promote heart regeneration in the neonatal mouse heart**                                                                                                                                                                                                                                                                                                           |
| 01, 2020  | The transient period of regeneration potential in the postnatal heart suggests molecular changes with maturation influence the cardiac response to damage.                                                                                                                                                                                                                                                                                               |
| January   | **Loss of ADAMTS19 causes progressive non-syndromic heart valve disease**                                                                                                                                                                                                                                                                                                                                                                                        |
| 01, 2020  | Valvular heart disease is observed in approximately 2% of the general population.                                                                                                                                                                                                                                                                                                                                                                                  |
| January   | **Protective role of cardiac-specific overexpression of caveolin-3 in cirrhotic cardiomyopathy**                                                                                                                                                                                                                                                                                                                                                               |
| 01, 2020  | Cirrhotic cardiomyopathy is a clinical syndrome in patients with liver cirrhosis characterized by blunted cardiac contractile responses to stress and/or injury.                                                                                                                                                                                                                                                                                       |
| January   | **Photo-Electro Active Nanocomposite Silk Hydrogel for Spatiotemporal Controlled Release of Chemotherapeutics: An In Vivo Approach Towards Suppressing Solid Tumor Growth**                                                                                                                                                                                                                                                                                                         |
| 01, 2020  | Conventional systemic chemotherapeutic regimens suffer from challenges such as non-specificity, shorter half-life, clearance of drugs and dose-limiting effects.                                                                                                                                                                                                                                                                                                  |
| January   | **Heart-Specific Immune Responses in an Animal Model of AutoimmuneRelated Myocarditis Mitigated by an Immunoproteasome Inhibitor and Genetic Ablation**                                                                                                                                                                                                                                                                                                    |
| 01, 2020  | Background: Immune checkpoint inhibitor (ICI) therapy is often accompanied by immune-related pathology, with an increasing occurrence of high-risk ICI effects.                                                                                                                                                                                                                                                                                        |
| January   | **Myo–inositol and D-Chiro–inositol oral supplementation ameliorate cardiac dysfunction and remodeling in a mouse model of diet-induced obesity**                                                                                                                                                                                                                                                                                                                                 |
| 01, 2020  | Obesity is an independent risk factor to develop cardiac functional and structural impairments.                                                                                                                                                                                                                                                                                                                                                                         |
| January   | **Age and Sex Differences in Hearts of Soluble Epoxide Hydrolase Null Mice**                                                                                                                                                                                                                                                                                                                                                                                        |
| 01, 2020  | Biological aging is an inevitable part of life that has intrigued individuals for millennia.                                                                                                                                                                                                                                                                                                                                                                           |
| January   | **GLP-1 mediated diuresis and natriuresis are blunted in heart failure and restored by selective afferent renal denervation**                                                                                                                                                                                                                                                                                                                                         |
| 01, 2020  | BACKGROUND: Glucagon-like peptide-1 (GLP-1) induces diuresis and natriuresis.                                                                                                                                                                                                                                                                                                                                                                                     |
| January   | **Retinoid X receptor alpha is a spatiotemporally predominant therapeutic target for anthracycline-induced cardiotoxicity**                                                                                                                                                                                                                                                                                                                                      |
| 01, 2020  | To uncover the genetic basis of anthracycline-induced cardiotoxicity (AIC), we recently established a genetic suppressor screening strategy in zebrafish.                                                                                                                                                                                                                                                                                                                  |
| January   | **Loss of insulin signaling may contribute to atrial fibrillation and atrial electrical remodeling in type 1 diabetes**                                                                                                                                                                                                                                                                                                                                            |
| 01, 2020  | Atrial fibrillation (AF) is prevalent in diabetes mellitus (DM); however, the basis for this is unknown.                                                                                                                                                                                                                                                                                                                                                          |
| January   | **The phospholamban p.(Arg14del) pathogenic variant leads to cardiomyopathy with heart failure and is unresponsive to standard heart failure therapy**                                                                                                                                                                                                                                                                                                                 |
| 01, 2020  | Phospholamban (PLN) plays a role in cardiomyocyte calcium handling as primary inhibitor of sarco/endoplasmic reticulum Ca2+-ATPase (SERCA).                                                                                                                                                                                                                                                                                                                         |
January 01, 2020  |  **Speckle Tracking Echocardiography: New Ways of Translational Approaches in Preeclampsia to Detect Cardiovascular Dysfunction**  
Several studies have shown that women with a preeclamptic pregnancy exhibit an increased risk of cardiovascular disease.

January 01, 2020  |  **Ca2+/calmodulin-dependent protein kinase II is essential in hyperacute pressure overload**  
Background: Activation of Ca2+/calmodulin-dependent protein kinase II (CaMKII) is established as a central intracellular trigger for various cardiac physiological processes.

January 01, 2020  |  **Transfer of a human gene variant associated with exceptional longevity improves cardiac function in obese type 2 diabetic mice through induction of the SDF1/CXCR4 signalling pathway**  
Aims: Homozygosity for a four-missense single-nucleotide polymorphism haplotype of the human BPIFB4 gene is enriched in long-living individuals.

January 01, 2020  |  **Hydrogen sulfide stimulates xanthine oxidoreductase conversion to nitrite reductase and formation of NO**  
Cardiovascular disease is the leading cause of death and disability worldwide with increased oxidative stress and reduced NO bioavailability serving a role in its development.

January 01, 2020  |  **3D High-Frequency Ultrasound Imaging of Cartilage-Bone Interface Compared with Micro-CT**  
Cartilage-bone interface (CBI) is a complex structure which bears important information in pathophysiology of osteoarthritis (OA).

January 01, 2020  |  **The mechanism of cancer drug addiction in ALK-positive T-Cell lymphoma**  
Rational new strategies are needed to treat tumors resistant to kinase inhibitors.

January 01, 2020  |  **Inhibition of urea transporter ameliorates uremic cardiomyopathy in chronic kidney disease**  
Uremic cardiomyopathy, characterized by hypertension, cardiac hypertrophy, and fibrosis, is a complication of chronic kidney disease (CKD).

January 01, 2020  |  **Serelaxin Improves Regional Myocardial Function in Experimental Heart Failure: An In Vivo Cardiac Magnetic Resonance Study**  
Background: Animal studies demonstrated that serelaxin lessens fibrosis in heart failure.

January 01, 2020  |  **Sirtuin 3 is essential for hypertension induced cardiac fibrosis via mediating pericyte transition**  
Hypertension is the key factor for the development of cardiac fibrosis and diastolic dysfunction.

January 01, 2020  |  **Acute kidney injury promotes development of papillary renal cell adenoma and carcinoma from renal progenitor cells**  
Acute tissue injury causes DNA damage and repair processes involving increased cell mitosis and polyploidization, leading to cell function alterations.

January 01, 2020  |  **Delivering More of an Injectable Human Recombinant Collagen III Hydrogel Does Not Improve Its Therapeutic Efficacy for Treating Myocardial Infarction**  
Injectable hydrogels are a promising method to enhance repair in the heart after myocardial infarction (MI).

January 01, 2020  |  **High-definition ultrasound characterization of acute cyclophosphamide-induced cystitis in the mouse**  
Purpose: To examine associations if any between changes in voiding function, hematuria, and bladder ultrasonography metrics in murine cyclophosphamide.

January 01, 2020  |  **Quantification of Atherosclerotic Plaque Elasticity Using Ultrasonic Texture Matching**  
The composition of an atherosclerotic plaque is a major determinant of its vulnerability, i.e. proneness to rupture.

January 01, 2020  |  **Regeneration of testis tissue after ectopic implantation of porcine testis cell aggregates in mice: Improved consistency of outcomes and in situ monitoring**  
Ectopic implantation of donor testis cell aggregates in recipient mice results in de novo formation or regeneration of testis tissue and, as such, produces functional sperm.

January 01, 2020  |  **Interleukin 22 Directly Activates Myocardial STAT3 (Signal Transducer and Activator of Transcription 3) Signaling Pathway and Prevents Myocardial Ischemia Reperfusion Injury**  
BACKGROUND: Interleukin (IL)-22, a member of the IL-10 cytokine family, is the only known cytokine that is secreted by immune cells but does not target.
| Date       | Title                                                                 | Abstract/Background                                                                 |
|------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| January 01, 2020 | Nck1, But Not Nck2, Mediates Disturbed Flow Induced p21 Activated Kinase Activation and Endothelial Permeability | BACKGROUND: Alteration in hemodynamic shear stress at atheroprone sites promotes endothelial paracellular pore formation and permeability. |
| January 01, 2020 | Thrombospondin 1 mediates Drp 1 signaling following ischemia reperfusion in the aging heart | Background: Ischemia reperfusion (IR) injury leads to activation of dynamin-related protein (Drp-1), causing mitochondrial fission and generation of |
| January 01, 2020 | Interference with ERK-dimerization at the nucleocytosolic interface targets pathological ERK1/2 signaling without cardiotoxic side-effects | Dysregulation of extracellular signal-regulated kinases (ERK1/2) is linked to several diseases including heart failure, genetic syndromes and cancer. |
| January 01, 2020 | Detection of Lung Tumor Progression in Mice by Ultrasound Imaging | With ~1.6 million victims per year, lung cancer contributes tremendously to the worldwide burden of cancer. |
| January 01, 2020 | Up regulation of miR 195 contributes to cardiac hypertrophy induced arrhythmia by targeting calcium and potassium channels | Previous studies have confirmed that miR-195 expression is increased in cardiac hypertrophy, and the bioinformatics website predicted by Targetscan so |
| January 01, 2020 | REEP5 depletion causes sarco-endoplasmic reticulum vacuolization and cardiac functional defects | The sarco-endoplasmic reticulum (SR/ER) plays an important role in the development and progression of many heart diseases. |
| January 01, 2020 | Molecular and Cellular Differences in Cardiac Repair of Male and Female Mice | BACKGROUND: Leukocyte- directed biosynthesis of specialized proresolving mediators (SPMs) orchestrates physiological in- flammation after myocardial i |
| January 01, 2020 | Activated Endothelial TGFβ1 Signaling Promotes Venous Thrombus Nonresolution in Mice Via Endothelin-1 | RATIONALE: Chronic thromboembolic pulmonary hypertension (CTEPH) is characterized by defective thrombus resolution, pulmonary artery obstruction, and |
| January 01, 2020 | Intermittent Use of a Short-Course Glucagon-like Peptide-1 Receptor Agonist Therapy Limits Adverse Cardiac Remodeling via Parkin-dependent Mitochondrial Turnover | Given that adverse remodeling is the leading cause of heart failure and death in the USA, there is an urgent unmet need to develop new methods in deal |
| January 01, 2020 | Exploring the mechanism underlying the cardioprotective effect of shexiang baoxin pill on acute myocardial infarction rats by comprehensive metabolomics | Ethnopharmacological relevance: Shexiang Baoxin Pill (SBP) is a commercial Chinese medicine included in the Chinese Pharmacopoeia with well-establishes |
| January 01, 2020 | Microengineered biosynthesized cellulose as anti-fibrotic in vivo protection for cardiac implantable electronic devices | Upon cardiac implantable electronic device (CIED) exchange, upgrade, or revision surgery patients are exposed to a considerable risk of adverse events |
| November 01, 2019 | Contribution of DNA methylation in chronic stress induced cardiac remodeling and arrhythmias in mice | It is recognized that stress can induce cardiac dysfunction, but the underlying mechanisms are not well understood. |
| November 01, 2019 | Epilepsy-related and other causes of mortality in people with epilepsy: A systematic review of systematic reviews | Background: This systematic review of epilepsy mortality systematic reviews evaluates comparative risks, causes, and risk factors for all-cause mortal |
| October 01, 2019 | The Reduced Uterine Perfusion Pressure (RUPP) rat model of preeclampsia exhibits impaired systolic function and global longitudinal strain during pregnancy | Background: Preeclampsia (PE) is a disorder prevalent in 3–8% of pregnancies, characterized by hypertension, endothelial dysfunction and cardiac dysfu |
| October 01, 2019 | TLR (Toll-Like Receptor) 4 Antagonism Prevents Left Ventricular Hypertrophy and Dysfunction Caused by Neonatal Hyperoxia Exposure in Rats | Preterm birth is associated with proinflammatory conditions and alterations in adult cardiac shape and function. |
| October 01, 2019 | N-Acetylcysteine prevents the decreases in cardiac collagen I/III ratio and systolic function in neonatal mice with prenatal alcohol exposure | Prenatal alcohol exposure (PAE) is often associated with congenital heart defects, most commonly septal, valvular, and great vessel defects. |
| October 01, 2019 | Multifunctional magnetic hairbot for untethered osteogenesis, ultrasound contrast imaging and drug delivery | To explore novel materials graded for biological functions is one of the grand challenges and ambitions of robotics. |
| October 01, 2019 | Impact of early life AT1 blockade on adult cardiac morpho-functional changes and the renin-angiotensin system in a model of neonatal high oxygen-induced cardiomyopathy | We previously reported that neonatal blockade of angiotensin II AT1 receptor prevents cardiac changes in 4 weeks rats with neonatal hyperoxia-induced |
| September 01, 2019 | LMO2 Confers Synthetic Lethality to PARP Inhibition in DLBCL | Deficiency in DNA double-strand break (DSB) repair mechanisms has been widely exploited for the treatment of different malignances, including homologo |
| September 01, 2019 | The cardioprotective effects of icariin on the isoprenaline-induced takotsubo-like rat model: Involvement of reactive oxygen species and the TLR4/NF-κB signaling pathway | Introduction: Takotsubo syndrome (TS) is an acute cardiac syndrome that mimics acute coronary syndrome (ACS) but lacks coronary obstruction and is ass |
| August 06, 2019 | Mitochondrial transplantation ameliorates acute limb ischemia | Objective: Acute limb ischemia (ALI), the most challenging form of ischemia-reperfusion injury (IRI) in skeletal muscle tissue, leads to decreased ske |
| July 01, 2019 | Accuracy of Ultrasound-Guided versus Landmark-Guided Intra-articular Injection for Rat Knee Joints | Abstract—Our aim was to test the effectiveness of ultrasound-guided intra-articular (IA) injection into the knee joint of rodents by an inexperienced |
| April 25, 2019 | PM2.5-induced ADRB2 hypermethylation contributed to cardiac dysfunction through cardiomyocytes apoptosis via PI3K/Akt pathway | Background: Long-term exposure to fine particulate matter (PM2.5) can causally contribute to progression of atherosclerosis, risk of ischemic heart di |
| April 22, 2019 | Strain Mapping From Four-Dimensional Ultrasound Reveals Complex Remodeling in Dissecting Murine Abdominal Aortic Aneurysms | Current in vivo abdominal aortic aneurysm (AAA) imaging approaches tend to focus on maximum diameter but do not measure three-dimensional (3D) vascula |
| March 21, 2019 | Targeting NAD+ Metabolism as Interventions for Mitochondrial Disease | Leigh syndrome is a mitochondrial disease characterized by neurological disorders, metabolic abnormality and premature death. |
| February 01, 2019 | Deficiency of IL12p40 (Interleukin 12 p40) Promotes Ang II (Angiotensin II)–Induced Abdominal Aortic Aneurysm | Objective—Abdominal aortic aneurysm is caused by the accumulation of inflammatory cells in the aortic wall. |
| January 28, 2019 | A collagen hydrogel loaded with HDAC7-derived peptide promotes the regeneration of infarcted myocardium with functional improvement in a rodent model | Myocardial infarction (MI) leads to the loss of cardiomyocytes, left ventricle (LV) dilation, and cardiac dysfunction, eventually developing into hear |
| Date     | Title                                                                 | Abstract                                                                 |
|----------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| January 01, 2019 | **Mouse Model of Thyroid Cancer Progression and Dedifferentiation Driven by STRN-ALK Expression and Loss of p53: Evidence for the Existence of Two Types of Poorly Differentiated Carcinoma** | Thyroid tumor progression from well-differentiated cancer to poorly differentiated thyroid carcinoma (PDTC) and anaplastic thyroid carcinoma (ATC)inv |
| January 01, 2019 | **Non Invasive Ultrasound Quantification of Scar Tissue Volume Identifies Early Functional Changes During Tendon Healing** | Tendon injuries are very common and disrupt the transmission of forces from muscle to bone, leading to impaired function and quality of life. |
| January 01, 2019 | **TNF-Induced Interstitial Lung Disease in a Murine Arthritis Model: Accumulation of Activated Monocytes, Conventional Dendritic Cells, and CD21+ /CD23 – B Cell Follicles Is Prevented with Anti-TNF Therapy** | Type 1 diabetes mellitus is an autoimmune disease characterized by T cell-mediated destruction of the insulin-producing beta cells in the islets of La |
| January 01, 2019 | **Trimethoxystilbene Reduces Nuclear Factor Kappa B, Interleukin-6, and Tumor Necrosis Factor-α Levels in Rats with Pulmonary Artery Hypertension** | Pulmonary artery hypertension is a refractory disease that severely affects cardiopulmonary function, mainly resulting in irreversible pulmonary vascul |
| January 01, 2019 | **PKG1-modified TSC2 regulates mTORC1 activity to counter adverse cardiac stress** | The mechanistic target of rapamycin complex-1 (mTORC1) coordinates regulation of growth, metabolism, protein synthesis and autophagy1. |
| January 01, 2019 | **Resveratrol improves cardiac function by promoting M2-like polarization of macrophages in mice with myocardial infarction** | Macrophage polarization determines the transition from the inflammation phase to the inflammation resolution phase after myocardial infarction (MI). |
| January 01, 2019 | **Exercise training upregulates Nrf2 protein in the rostral ventrolateral medulla of mice with heart failure** | Chronic heart failure (CHF) is associated with global oxidative stress, which contributes to sympathoexcitation. |
| January 01, 2019 | **Sex-specific differences in endoplasmic reticulum aminopeptidase 1 modulation influence blood pressure and renin-angiotensin system responses** | Salt sensitivity of blood pressure (SSBP) and hypertension are common, but the underlying mechanisms remain unclear. |
| January 01, 2019 | **Alpha calcitonin gene related peptide prevents pressure overload induced heart failure: role of apoptosis and oxidative stress** | Alpha-calcitonin gene-related peptide (alpha-CGRP) is a 37-amino acid neuropeptide that plays an important protective role in modulating cardiovascular d |
| January 01, 2019 | **Augmenting canonical Wnt signalling in therapeutically inert cells converts them into therapeutically potent exosome factories** | Cardiosphere-derived cells are therapeutic candidates with disease-modifying bioactivity, but their variable potency has complicated their clinical tr |
| January 01, 2019 | **Cardiac hypertrophy with obesity is augmented after pregnancy in C57BL/6 mice** | Background: Over a third of reproductive-age women in the USA are obese, and the prevalence of cardiovascular disease (CVD) is rising in premenopausal |
| January 01, 2019 | **Murine model of left ventricular diastolic dysfunction and electromechanical uncoupling following high-fat diet** | Background/Objectives: It is well established that obesity is an independent risk factor for cardiac death. |
| January 01, 2019 | **Towards Functional Mobile Microrobotic Systems** | This paper presents our work over the last decade in developing functional microrobotic systems, which include wireless actuation of microrobots to tr |
| January 01, 2019 | **Reparative macrophage transplantation for myocardial repair: a refinement of bone marrow mononuclear cell-based therapy** | Reparative macrophages play an important role in cardiac repair post-myocardial infarction (MI). |
| January 01, 2019 | **GHSR deficiency exacerbates cardiac fibrosis: role in macrophage inflammasome activation and myofibroblast differentiation** | AIMS: Sustained activation of beta-adrenergic signaling induces cardiac fibrosis, which marks progression to heart failure. |
| Date               | Title                                                                                                            | Details                                                                                                                                                                                                 |
|-------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 01, 2019  | **T Cell-Derived IL-17A Induces Vascular Dysfunction via Perivascular Fibrosis Formation and Dysregulation of NO/cGMP Signaling** | Aims. The neutrophil recruiting cytokine Interleukin-17A (IL-17A) is a key component in vascular dysfunction and arterial hypertension.                                                              |
| October 15, 2018  | **Size-dependent Tumor Response to Photodynamic Therapy and Irinotecan Monotherapies Revealed by Longitudinal Ultrasound Monitoring in an Orthotopic Pancreatic Cancer Model** | Longitudinal monitoring of tumor size in vivo can provide important biological information about disease progression and treatment efficacy that is no                                                                 |
| September 05, 2018| **A preclinical ultrasound method for the assessment of vascular disease progression in murine models**          | Introduction: The efficacy of preclinical ultrasound at providing a quantitative assessment of mouse models of vascular disease is relatively unknown.                                                           |
| July 31, 2018     | **Comparative determination of placental perfusion by magnetic resonance imaging and contrast-enhanced ultrasound in a murine model of intrauterine growth restriction** | Introduction: Exploration of placental perfusion is essential in screening for dysfunctions impairing fetal growth.                                                                                       |
| July 31, 2018     | **Immune response mediates cardiac dysfunction after traumatic brain injury**                                      | Cardiovascular complications are common after TBI and are associated with increased morbidity and mortality.                                                                                             |
| February 23, 2018 | **Astragalus Granule Prevents Ca 2 + Current Remodeling in Heart Failure by the Downregulation of CaMKII**         | Background. Astragalus was broadly used for treating heart failure (HF) and arrhythmias in East Asia for thousands of years.                                                                           |
| February 23, 2018 | **Multitarget Effects of Danqi Pill on Global Gene Expression Changes in Myocardial Ischemia**                     | Danqi pill (DQP) is a widely prescribed traditional Chinese medicine (TCM) in the treatment of cardiovascular diseases.                                                                                |
| February 23, 2018 | **MicroRNA-378 enhances radiation response in ectopic and orthotopic implantation models of glioblastoma**        | Glioblastoma multiforme (GBM) is the most common and highly malignant primary brain tumor, which is virtually incurable due to its therapeutic resista                                                          |
| February 23, 2018 | **A New Murine Model of Chronic Kidney Disease-Mineral and Bone Disorder**                                       | Chronic kidney disease (CKD) is associated with mineral and bone disorder (MBD), which is the main cause of the extensively increased cardiovascular m                                                                 |
| February 23, 2018 | **Primary Immunoprevention of Epithelial Ovarian Carcinoma by Vaccination against the Extracellular Domain of Anti-Müllerian Hormone Receptor II** | Epithelial ovarian carcinoma (EOC) is the most prevalent form of ovarian cancer in the United States, representing approximately 85% of all cases and                                                                 |
| January 01, 2018  | **Optimal range of injection rates for a lymphatic drug delivery system**                                        | The lymphatic drug delivery system (LDDS) is a new technique that permits the injection of drugs into a sentinel lymph node (SLN) at an early stage of                                                                 |
| November 20, 2017 | **Effects of Total Flavone from Rhododendron simsii Planch. Flower on Postischemic Cardiac Dysfunction and Cardiac Remodeling in Rats** | This study investigated the effect of total flavone from Rhododendron simsii Planch.                                                                                                                                                                 |
| March 07, 2017    | **Activation of E-prostanoid 3 receptor in macrophages facilitates cardiac healing after myocardial infarction**   | Two distinct monocyte (Mo)/macrophage (Mp) subsets (Ly6Clow and Ly6Chigh) orchestrate cardiac recovery process following myocardial infarction (MI).                                                             |
| March 07, 2017    | **Association of serum HMGB2 level with MACE at 1 mo of myocardial infarction: Aggravation of myocardial ischemic injury in rats by HMGB2 via ROS** | High-mobility group box (HMGB) family is related to inflammatory diseases.                                                                                                                               |
| Date                | Title                                                                 | Abstract                                                                 |
|---------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------|
| March 01, 2017      | Decreased WNT/β-catenin signalling contributes to the pathogenesis of dilated cardiomyopathy caused by mutations in the lamin a/C gene | Cardiomyopathy caused by lamin A/C gene (LMNA) mutations (hereafter referred as LMNA cardiomyopathy) is characterized by cardiac conduction abnormality |
| March 01, 2017      | Endothelial Nox4-based NADPH oxidase regulates atherosclerosis via soluble epoxide hydrolase | Nox4-based NADPH oxidase is a major reactive oxygen species-generating enzyme in the vasculature, but its role in atherosclerosis remains controversial |
| January 01, 2016    | Stretching reduces skin thickness and improves subcutaneous tissue mobility in a murine model of systemic sclerosis | OBJECTIVE Although physical therapy can help preserve mobility in patients with systemic sclerosis (SSc), stretching has not been used systematically |
| November 29, 2016   | Local checkpoint inhibition of CTLA-4 as a monotherapy or in combination with anti-PD1 prevents the growth of murine bladder cancer | ABSTRACT Checkpoint blockade of CTLA-4 results in long-lasting survival benefits in metastatic cancer patients. |
| May 21, 2015        | Evaluation of utero-placental and fetal hemodynamic parameters throughout gestation in pregnant mice using high-frequency ultrasound | Throughout gestation, changes in maternal and fetal Doppler parameters in pregnant mice, similar to those obtained in human fetuses, were detected using high-frequency ultrasound |
| December 01, 2011   | Feasibility of very-high resolution ultrasound to assess elastic and muscular arterial wall morphology in adolescents attending an outpatient clinic for obesity and lipid abnormalities | Objective: Atherosclerosis begins during early life and is accelerated in individuals with cardiovascular risk factors. |
| January 01, 2010    | Assessment of vascular phenotype using a novel very-high-resolution ultrasound technique in adolescents after aortic coarctation repair and/or stent implantation: relationship to central haemodynamics and left ventricular mass | Objectives Coarctation of the aorta (CoA) has been associated with abnormal vascular function, increased blood pressure (BP) and premature cardiovascular disease |