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| June 04, 2021 | Fast super-resolution ultrasound microvessel imaging using spatiotemporal data with deep fully convolutional neural network | Ultrasound localization microscopy (ULM) has been proposed to image microvasculature beyond the ultrasound diffraction limit. |
| January 04, 2021 | A Protocol for Evaluating Vital Signs and Maternal-Fetal Parameters Using High-Resolution Ultrasound in Pregnant Mice | Pregnancy is a unique physiological state in which two individuals coexist: the mother and the fetus. |
| January 01, 2019 | Pharmacological inhibition of Notch signaling regresses pre-established abdominal aortic aneurysm | Abdominal aortic aneurysm (AAA) is characterized by transmural infiltration of myeloid cells at the vascular injury site. |
| January 01, 2018 | Impairment of an Endothelial NAD + -H 2 S Signaling Network Is a Reversible Cause of Vascular Aging | A decline in capillary density and blood flow with age is a major cause of mortality and morbidity. |
| January 01, 2018 | Development and growth trends in angiotensin II-induced murine dissecting abdominal aortic aneurysms | Abdominal aortic aneurysms are pathological dilations that can suddenly rupture, causing more than 15,000 deaths in the U.S. annually. |
| October 19, 2021 | Mutation of the 5'-untranslated region stem-loop mRNA structure reduces type I collagen deposition and arterial stiffness in male obese mice | Arterial stiffening, a characteristic feature of obesity and type 2 diabetes, contributes to the development and progression of cardiovascular disease |
| October 19, 2021 | Deletion of BK channels decreased skeletal and cardiac muscle function but increased smooth muscle contraction in rats | Large conductance calcium-activated potassium channel (BK channel) is widely expressed in skeletal muscle, myocardium, smooth muscle and other muscle |
| October 19, 2021 | Evaluation of fine particulate matter on vascular endothelial function in vivo and in vitro | Ambient fine particulate matter (PM2.5) and high-fat diet (HFD) are linked to the development of atherosclerosis. |
| October 19, 2021 | Cyclic nucleotide phosphodiesterase 1C contributes to abdominal aortic aneurysm | Abdominal aortic aneurysm (AAA) is characterized by aorta dilation due to wall degeneration, which mostly occurs in elderly males. |
| October 19, 2021 | Silencing IL12p35 Promotes Angiotensin II-Mediated Abdominal Aortic Aneurysm through Activating the STAT4 Pathway | Background and Purpose. |
| October 19, 2021 | Biomechanical consequences of compromised elastic fiber integrity and matrix cross-linking on abdominal aortic aneurysmal enlargement | Abdominal aortic aneurysms (AAAs) are characterized histopathologically by compromised elastic fiber integrity, lost smooth muscle cells or their func |
| October 18, 2021 | CCL7 contributes to angiotensin II-induced abdominal aortic aneurysm by promoting macrophage infiltration and pro-inflammatory phenotype | Chemokine C-C motif ligand 7 (CCL7), a member of CC chemokine subfamily, plays pivotal roles in numerous inflammatory diseases. |
| October 18, 2021 | Artesunate Attenuated the Progression of Abdominal Aortic Aneurysm in a Mouse Model | Background: The inflammatory reaction is an important mechanism of pathogenesis of abdominal aortic aneurysm (AAA). |
| October 18, 2021 | Red Blood Cell and Endothelial eNOS Independently Regulate Circulating Nitric Oxide Metabolites and Blood Pressure | Background: Current paradigms suggest that nitric oxide (NO) produced by endothelial cells (ECs) through endothelial nitric oxide synthase (eNOS) in t |
| October 18, 2021 | Activation of Smad2/3 signaling by low fluid shear stress mediates artery inward remodeling | Endothelial cell (EC) sensing of wall fluid shear stress (FSS) from blood flow governs vessel remodeling to maintain FSS at a specific magnitude or se |

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| August 24, 2021 | Ultrasensitive Carbon Nanotubes for Photoacoustic Imaging of Inflamed Atherosclerotic Plaques | Disruption of vulnerable atherosclerotic plaques often leads to myocardial infarction and stroke, the leading causes of morbidity and mortality in the |
| August 24, 2021 | Soluble epoxide hydrolase deletion attenuated nicotine-induced arterial stiffness via limiting the loss of SIRT1 | We presently show that sEH knockout repressed nicotine-induced arterial stiffness and extracellular matrix remodeling via SIRT1-induced YAP deacetylat |
| August 24, 2021 | Anti-atherogenic effect of 10% supplementation of anchovy (<i>Engraulis encrasicolus</i>) waste protein hydrolysates in apoe-deficient mice | Fish protein consumption exerts beneficial metabolic effects on human health, also correlat-ing with a decreased risk for cardiovascular disease. |
| August 09, 2021 | A Thrombin-Responsive Nanoprobe for in Vivo Visualization of Thrombus Formation through Three-Dimensional Optical/Computed Tomography Hybrid Imaging | Early spontaneous detection of thrombin activation benefits precise theranostics for thrombotic vascular disease. |
| August 09, 2021 | Bioinspired therapeutic platform based on extracellular vesicles for prevention of arterial wall remodeling in hypertension | Arterial stiffness due to the vessel remodeling is closely linked to raised blood pressure, and its physiopathologic mechanism is still not fully unde |
| July 07, 2021 | Senolytic agents lessen the severity of abdominal aortic aneurysm in aged mice | Age is a major risk factor for abdominal aortic aneurysm (AAA), for which treatment options are limited to surgical intervention for large AAA and wat |
| July 07, 2021 | In vivo photoacoustic imaging for monitoring treatment outcome of corneal neovascularization with metformin eye drops | Corneal neovascularization (CNV) compromises corneal avascularity and visual acuity. |
| June 28, 2021 | Chronic stimulation of group II metabotropic glutamate receptors in the medulla oblongata attenuates hypertension development in spontaneously hypertensive rats | Baroreflex dysfunction is partly implicated in hypertension and one responsible region is the dorsal medulla oblongata including the nucleus tractus s |
| June 25, 2021 | Aortic disease in Marfan syndrome is caused by overactivation of sGC-PRKG signaling by NO | Thoracic aortic aneurysm, as occurs in Marfan syndrome, is generally asymptomatic until dissection or rupture, requiring surgical intervention as the |
| June 25, 2021 | Contrast enhanced ultrasound molecular imaging of activated platelets in the progression of atherosclerosis using microbubbles bearing the von Willebrand factor A1 domain | Platelet endothelial interactions have been linked to increased inflammatory activation and a prothrombotic state in atherosclerosis. |
| June 10, 2021 | Doxorubicin induces arterial stiffness: A comprehensive in vivo and ex vivo evaluation of vascular toxicity in mice | Arterial stiffness is an important predictor of cardiovascular risk. |
| June 10, 2021 | Mst1/2 Kinases Inhibitor, XMU-MP-1, Attenuates Angiotensin II-Induced Ascending Aortic Expansion in Hypercholesterolemic Mice | Background: Ascending and abdominal aortic aneurysms (AAs) are asymptomatic, permanent dilations of the aorta with surgical intervention as the curren |
| June 10, 2021 | Systemic delivery of targeted nanotherapeutic reverses angiotensin II-induced abdominal aortic aneurysms in mice | Abdominal aortic aneurysm (AAA) disease causes dilation of the aorta, leading to aortic rupture and death if not treated early. |
| June 09, 2021 | Chemerin-9 Attenuates Experimental Abdominal Aortic Aneurysm Formation in ApoE^{-/-} Mice | Chronic inflammation plays an essential role in the pathogenesis of abdominal aortic aneurysm (AAA), a progressive segmental abdominal aortic dilation |
| June 09, 2021 | Gelatin coating promotes in situ endothelialization of electrospun polycaprolactone vascular grafts | Rapid endothelialization is crucial for in situ tissue engineering vascular grafts to prevent graft failure in the long-term. |

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| June 09, 2021 | Stiffness of aortic arch and carotid arteries increases in ApoE-knockout mice with high-fat diet: Evidence from echocardiography | Arterial stiffness is an effective predictor of atherosclerosis. |
| June 07, 2021 | Three-dimensional visualization and improved quantification with super-resolution ultrasound imaging - Validation framework for analysis of microvascular morphology using a chicken embryo model | The purpose of this study was to improve the morphological analysis of microvascular networks depicted in three-dimensional (3D) super-resolution ultr |
| June 07, 2021 | SNF5 promotes IL-1β expression via H3K4me1 in atherosclerosis induced by homocysteine | Homocysteine (Hcy) is a strong and independent risk factor of atherosclerosis. |
| June 07, 2021 | Loxl4 abrogation does not exaggerate angiotensin ii-induced thoracic or abdominal aortic aneurysm in mice | It has been shown that thoracic aortic aneurysm and dissection (TAAD) could be a Mendelian trait caused by a single gene mutation. |
| June 04, 2021 | Activation of angiotensin type 2 receptor attenuates testosterone-induced hypertension and uterine vascular resistance in pregnant rats† | Preeclampsia is a pregnancy-related hypertensive disorder with unclear mechanisms. |
| June 04, 2021 | Inhibition of NOX1 Mitigates Blood Pressure Increases in Elastin Insufficiency | Elastin (ELN) insufficiency leads to the cardiovascular hallmarks of the contiguous gene deletion disorder, Williams–Beuren syndrome, including hypert |
| June 04, 2021 | Measurement of total liver blood flow in intact anesthetized rats using ultrasound imaging | This short report describes the measurement of total liver blood flow in commonly used laboratory rats using the relatively non-invasive approach of u |
| June 04, 2021 | The effect of hypoxia-mimicking responses on improving the regeneration of artificial vascular grafts | Cellular transition to hypoxia following tissue injury, has been shown to improve angiogenesis and regeneration in multiple tissues. |
| June 04, 2021 | Rolipram prevents the formation of abdominal aortic aneurysm (Aaa) in mice: pde4b as a target in AAA | Abdominal aortic aneurysm (AAA) is a common life-threatening condition characterized by exacerbated inflammation and the generation of reactive oxygen |
| May 28, 2021 | Accelerated atherosclerosis caused by serum amyloid A response in lungs of ApoE$^{-/-}$ mice | Airway exposure to eg particulate matter is associated with cardiovascular disease including atherosclerosis. |
| May 28, 2021 | Chemotherapy-induced acute vascular injury involves intracellular generation of ROS via activation of the acid sphingomyelinase pathway | Several categories of chemotherapy confer substantial risk for late-term vascular morbidity and mortality. |
| March 25, 2021 | Acute glucose influx-induced mitochondrial hyperpolarization inactivates myosin phosphatase as a novel mechanism of vascular smooth muscle contraction | It is well-established that long-term exposure of the vasculature to metabolic disturbances leads to abnormal vascular tone, while the physiological r |
| March 12, 2021 | Histone citrullination as a novel biomarker and target to inhibit progression of abdominal aortic aneurysms | Neutrophil extracellular traps (NETs) have been implicated in the pathogenesis of abdominal aortic aneurysms (AAAs). |
| March 08, 2021 | Sonopermeation Enhances Uptake and Therapeutic Effect of Free and Encapsulated Cabazitaxel | Delivery of drugs and nanomedicines to tumors is often heterogeneous and insufficient and, thus, of limited efficacy. |
| March 01, 2021 | Animal Model Dependent Response to Pentagalloyl Glucose in Murine Abdominal Aortic Injury | Abdominal aortic aneurysms (AAAs) are a local dilation of the aorta and are associated with significant mortality due to rupture and treatment complic |
| March 01, 2021 | P-Selectin Glycoprotein Ligand-1 Deficiency Protects Against Aortic Aneurysm Formation Induced by DOCA Plus Salt | Purpose: P-selectin glycoprotein ligand-1 (PSGL-1) acts as a crucial regulator for the inflammatory cells infiltration by mediating the adhesion of le |

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| March 01, 2021 | Digestive n-6 Lipid Oxidation, a Key Trigger of Vascular Dysfunction and Atherosclerosis in the Western Diet: Protective Effects of Apple Polyphenols | Scope: A main risk factor of atherosclerosis is a Western diet (WD) rich in n-6 polyunsaturated fatty acids (PUFAs) sensitive to oxidation. |
| March 01, 2021 | A Dual Role of Heme Oxygenase-1 in Angiotensin II-Induced Abdominal Aortic Aneurysm in the Normolipidemic Mice | Abdominal aortic aneurysm (AAA) bears a high risk of rupture and sudden death of the patient. |
| March 01, 2021 | Analysis of Syk/PECAM-1 signaling pathway in low shear stress induced atherosclerosis based on ultrasound imaging | Background and Objective: Low shear stress (LSS) has been demonstrated to be involved in function of vascular endothelial cells. |
| February 23, 2021 | Developmental origins of mechanical homeostasis in the aorta | Background: Mechanical homeostasis promotes proper aortic structure and function. |
| February 22, 2021 | Aortic Strain Correlates With Elastin Fragmentation in Fibrillin-1 Hypomorphic Mice | Background: Diagnosis requires that clinicians communicate and share patient information in an efficient manner. |
| February 19, 2021 | Ultrasound molecular imaging of atherosclerosis for early diagnosis and therapeutic evaluation through leucocyte-like multiple targeted microbubbles | Cardiovascular diseases resulting from atherosclerosis have become a serious threat to human health. |
| January 18, 2021 | TRPV5 attenuates abdominal aortic aneurysm in mice by regulating KLF4-dependent phenotype switch of aortic vascular smooth muscle cells | Abdominal aortic aneurysm (AAA) is a fatal vascular disease with insidious symptoms. However, the mechanism behind its development remains unclear. |
| January 18, 2021 | Bone marrow-derived mesenchymal stem cells microvesicles stabilize atherosclerotic plaques by inhibiting NLRP3-mediated macrophage pyroptosis | Rupture of atherosclerotic plaques constitutes the major cause of thrombosis and acute ischemic coronary syndrome. |
| January 14, 2021 | Assessing model mismatch and model selection in a Bayesian uncertainty quantification analysis of a fluid-dynamics model of pulmonary blood circulation | This study uses Bayesian inference to quantify the uncertainty of model parameters and haemodynamic predictions in a one-dimensional pulmonary circula |
| January 14, 2021 | CFTR plays an important role in the regulation of vascular resistance and high-fructose/salt-diet induced hypertension in mice | Background: The pathophysiological roles of cystic fibrosis transmembrane-conductance regulator (CFTR) Cl ⁻ channels in the regulation of blood pressur |
| January 14, 2021 | A validated mouse model capable of recapitulating the protective effects of female sex hormones on ascending aortic aneurysms and dissections (AADs) | Fewer females develop AADs (ascending aortic aneurysms and dissections) and the reasons for this protection remain poorly understood. |
| January 14, 2021 | Thick PCL Fibers Improving Host Remodeling of PGS-PCL Composite Grafts Implanted in Rat Common Carotid Arteries | Vasculopathy and the consequential ischemia are major medical challenges. Grafting is an effective treatment to vascular occlusion. |
| January 04, 2021 | Early Gestational Exposure to Inhaled Ozone Impairs Maternal Uterine Artery and Cardiac Function | Exposure to air pollutants such as ozone (O ₃) is associated with adverse pregnancy outcomes, including higher incidence of gestational hypertension, p |
| January 04, 2021 | Effects of Braiding Parameters on Tissue Engineered Vascular Graft Development | Tissue engineered vascular grafts (TEVGs) using scaffolds fabricated from braided poly(glycolic acid) (PGA) fibers coated with poly(glycerol sebacate) |
| January 04, 2021 | Sex differences in the time course and mechanisms of vascular and cardiac aging in mice: role of the smooth muscle cell mineralocorticoid receptor | Aging is associated with heart and vascular dysfunction that contributes to cardiovascular disease (CVD) risk. |

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| January 04, 2021 | Factor Xa inhibitor rivaroxaban suppresses experimental abdominal aortic aneurysm progression via attenuating aortic inflammation | Objective: Rivaroxaban is a specific factor Xa (FXa) inhibitor for venous thromboembolism treatment. |
| January 04, 2021 | Bimodal Imaging-Visible Nanomedicine Integrating CXCR4 and VEGFa Genes Directs Synergistic Reendothelialization of Endothelial Progenitor Cells | A major challenge to treat vascular endothelial injury is the restoration of endothelium integrity in which endothelial progenitor cells (EPCs) plays |
| January 04, 2021 | Specific inhibition of SHP2 suppressed abdominal aortic aneurysm formation in mice by augmenting the immunosuppressive function of MDSCs | Aims: To address the roles of SHP2 in regulating angiotensin II (Ang II) induced abdominal aortic aneurysm (AAA) and the potential molecular mechanism |
| January 04, 2021 | Vascular protective effect of aspirin and rivaroxaban upon endothelial denudation of the mouse carotid artery | While in recent trials the dual pathway inhibition with aspirin plus rivaroxaban has shown to be efficacious in patients with atherosclerotic cardiova |
| January 04, 2021 | Inhibition of transforming growth factor-β signaling in myeloid cells ameliorates aortic aneurysmal formation in Marfan syndrome | Increased transforming growth factor- β (TGF- β) signaling contributes to the pathophysiology of aortic aneurysm in Marfan syndrome (MFS). |
| January 04, 2021 | Effects of different positions of intravascular stent implantation in stenosed vessels on in-stent restenosis: An experimental and numerical simulation study | Percutaneous coronary intervention (PCI) has been widely used in the treatment of atherosclerosis, while in-stent restenosis (ISR) has not been comple |
| January 04, 2021 | Daphnetin suppresses experimental abdominal aortic aneurysms in mice via inhibition of aortic mural inflammation | Rupture of abdominal aortic aneurysm (AAA) is a devastating event that can be prevented by inhibiting the growth of small aneurysms. |
| November 03, 2020 | Potential role of intermittent functioning of baroreflexes in the etiology of hypertension in spontaneously hypertensive rats | The spontaneously hypertensive rat (SHR) is a genetic model of primary hypertension with an etiology that includes sympathetic overdrive. |
| November 03, 2020 | Macrophage pyroptosis is mediated by immunoproteasome subunit $\beta 5i$ (LMP7) in abdominal aortic aneurysm | Macrophages contribute to abdominal aortic aneurysm (AAA), but the effect of macrophage on AAA formation is not totally understood. |
| November 03, 2020 | Aortic Stiffness and Diastolic Dysfunction in Sprague Dawley Rats Consuming Short-Term Fructose Plus High Salt Diet | Introduction: High fructose and salt consumption continues to be prevalent in western society. |
| November 03, 2020 | In vivo measurement of flow-mediated vasodilation in living rats using high-resolution ultrasound | In humans, endothelial vasodilator function serves as a surrogate marker for cardiovascular health and is measured as changes in conduit artery diamet |
| October 16, 2020 | A single exposure to eucalyptus smoke sensitizes rats to the postprandial cardiovascular effects of a high carbohydrate oral load | Objective: Previous studies have shown that air pollution exposure primes the body to heightened responses to everyday stressors of the cardiovascular |
| October 16, 2020 | Functional Role of Second Heart Field-derived Smooth Muscle Cells in Thoracic Aortopathies in Mice | Changes in soil physical properties due to traditional methods of puddling for lowland rice (<i>Oryza sativa</i> L.) production and post-rice legumes was inv |
| October 16, 2020 | Artery to vein configuration of arteriovenous fistula improves hemodynamics to increase maturation and patency | Arteriovenous fistulae (AVF) are the preferred mode of hemodialysis access, but 60% of conventional [vein-to-artery (V-A)] AVF fail to mature, and onl |
| October 16, 2020 | Platelet membrane-functionalized nanoparticles with improved targeting ability and lower hemorrhagic risk for thrombolysis therapy | Intravenous injection of thrombolytic drugs is the most effective strategy for the treatment of thrombotic diseases. |

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| October 16, 2020 | Age-dependent characterization of carotid and cerebral artery geometries in a transgenic mouse model of sickle cell anemia using ultrasound and microcomputed tomography | To define morphological changes in carotid and cerebral arteries in sickle cell transgenic mice (SS) as they age, a combination of ultrasound and micr |
| October 16, 2020 | Ultrasound Assessment of the Relation between Local Hemodynamic Parameters and Plaque Morphology | Mechanical factors, especially wall shear stress (WSS) and circumferential strain (CS), play an important role in the progression and rupture of ather |
| October 16, 2020 | A novel biodegradable external stent regulates vein graft remodeling via the Hippo-YAP and mTOR signaling pathways | Coronary artery bypass graft (CABG) has been confirmed to effectively improve the prognosis of coronary artery disease, which is a major public health |
| October 16, 2020 | Fluid shear stress modulates endothelial inflammation by targeting LIMS2 | Mechanosensitive genes regulate multiple cardiovascular pathophysiological processes and disorders; however, the role of flow-sensitive genes in ather |
| September 09, 2020 | Hyaluronan promotes the regeneration of vascular smooth muscle with potent contractile function in rapidly biodegradable vascular grafts | The regeneration of smooth muscle with physiological functions has been a key challenge in vascular tissue engineering. |
| September 09, 2020 | Slow degrading poly(glycerol sebacate) derivatives improve vascular graft remodeling in a rat carotid artery interposition model | Porous synthetic grafts made of poly (glycerol sebacate) (PGS) can transform into autologous vascular conduits in vivo upon degradation of PGS. |
| September 09, 2020 | A mouse model of stenosis distal to an arteriovenous fistula recapitulates human central venous stenosis | Objective: Central venous stenosis (CVS) is a major cause of arteriovenous fistula (AVF) failure. |
| September 09, 2020 | GSK2593074A blocks progression of existing abdominal aortic dilation | Objective: Receptor interacting proteins kinase 1 and 3 (RIPK1 and RIPK3) have been shown to play essential roles in the pathogenesis of abdominal aor |
| September 09, 2020 | Lin28a up-regulation is associated with the formation of restenosis via promoting proliferation and migration of vascular smooth muscle cells | To explore the potential role of Lin28a in the development of restenosis after percutaneous transluminal angioplasty, double-balloon injury surgery an |
| September 09, 2020 | A bi-layered tubular scaffold for effective anti-coagulant in vascular tissue engineering | Acute coagulation is one of the vexed problems in transplantation of small-diameter artificial blood vessel. |
| September 01, 2020 | Photochemical Tissue Passivation of Arteriovenous Grafts Prevents Long-term Development of Intimal Hyperplasia in a Swine Model | Background: The autologous vein remains the standard conduit for lower extremity and coronary artery bypass grafting despite a 30%-50% 5-y failure rat |
| July 01, 2020 | miR-374b-5p is increased in deep vein thrombosis and negatively targets IL-10 | Background: Deep venous thrombosis (DVT) is one of the most common venous thromboembolic (VTE) disorders and the third leading cardiovascular complica |
| June 01, 2020 | Construction of vascular graft with circumferentially oriented microchannels for improving artery regeneration | Design and fabrication of scaffolds with three-dimensional (3D) topological cues inducing regeneration of the neo-tissue comparable to native one rema |
| May 01, 2020 | Motor transmission defects with sex differences in a new mouse model of mild spinal muscular atrophy | Background: Mouse models of mild spinal muscular atrophy (SMA) have been extremely challenging to generate. |
| April 01, 2020 | TRAIL-expressing cell membrane nanovesicles as an anti-inflammatory platform for rheumatoid arthritis therapy | Rheumatoid arthritis (RA) is one of the most common chronic autoimmune diseases. |

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| March 30, 2020 | Management of metabolic syndrome and reduction in body weight in type II diabetic mice by inhibiting glycosphingolipid synthesis | Metabolic syndrome is defined by hyperlipidemia and cardiovascular complications. |
| March 01, 2020 | PM2.5-induced inflammation and lipidome alteration associated with the development of atherosclerosis based on a targeted lipidomic analysis | Epidemiological studies have confirmed that PM2.5 could contribute to the development of atherosclerosis accompanied with lipids dysregulation. |
| March 01, 2020 | Therapeutic Antibody Against Phosphorylcholine Preserves Coronary Function and Attenuates Vascular 18F-FDG Uptake in Atherosclerotic Mice | This study showed that treatment with a therapeutic monoclonal immunoglobulin-G1 antibody against phosphorylcholine on oxidized phospholipids preserve |
| February 01, 2020 | Evolution of metallic cardiovascular stent materials: A comparative study among stainless steel, magnesium and zinc | A cardiovascular stent is a small mesh tube that expands a narrowed or blocked coronary artery. |
| February 01, 2020 | Tissue-Engineered Vascular Grafts with Advanced Mechanical Strength from Human iPSCs | Vascular smooth muscle cells (VSMCs) can be derived in large numbers from human induced pluripotent stem cells (hiPSCs) for producing tissue-engineere |
| February 01, 2020 | Effects of the different-sized external stents on vein graft intimal hyperplasia and inflammation | Background: The poor long-term patency ratio of vein grafts prevents patients from benefiting from coronary artery bypass graft (CABG). |
| 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. |
| January 01, 2020 | Measurement of Pulse Propagation Velocity, Distensibility and Strain in an Abdominal Aortic Aneurysm Mouse Model | An abdominal aortic aneurysm (AAA) is defined as a localized dilation of the abdominal aorta that exceeds the maximal intraluminal diameter (MILD) by |
| January 01, 2020 | Exercise preconditioning protects against acute cardiac injury induced by lipopolysaccharide through general control nonderepressible 2 kinase | Exercise preconditioning may protect against cardiac injury induced by lipopolysaccharide (LPS), but the mechanism is unresolved. |
| January 01, 2020 | Different degradation rates of nanofiber vascular grafts in small and large animal models | Nanofiber vascular grafts have been shown to create neovessels made of autologous tissue, by in vivo scaffold biodegradation over time. |
| January 01, 2020 | Cancer During Pregnancy: The Role of Vascular Toxicity in Chemotherapy-Induced Placental Toxicity | Breast cancer is diagnosed in ~0.3% of pregnant women. |
| January 01, 2020 | AT2R agonist NP 6A4 mitigates aortic stiffness and proteolytic activity in mouse model of aneurysm | Clinical and experimental studies show that angiotensin II (AngII) promotes vascular pathology via activation of AngII type 1 receptors (AT1Rs). |
| January 01, 2020 | Melatonin protects against thoracic aortic aneurysm and dissection through SIRT1 dependent regulation of oxidative stress and vascular smooth muscle cell loss | Melatonin functions as an endogenous protective molecule in multiple vascular diseases, whereas its effects on thoracic aortic aneurysm and dissection |
| 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 | Abnormal Lysosomal Positioning and Small Extracellular Vesicle Secretion in Arterial Stiffening and Calcification of Mice Lacking Mucopolin 1 Gene | Recent studies have shown that arterial medial calcification is mediated by abnormal release of exosomes/small extracellular vesicles from vascular sm |

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| January 01, 2020 | Non-invasive ultrasound detection of cerebrovascular changes in a mouse model of TBI | carotid arteries of mice exposed to a controlled cortical impact. |
| January 01, 2020 | 17-Hydroxyprogesterone caproate improves T cells and NK cells in response to placental ischemia: new mechanisms of action for an old drug | Preeclampsia (PE) is new onset hypertension during pregnancy associated with increased uterine artery resistance (UARI) and an imbalance among CD4 + T |
| January 01, 2020 | Dermal exposure to the UV filter benzophenone-3 during early pregnancy affects fetal growth and sex ratio of the progeny in mice | The aim of this study was to analyze whether dermal exposure to benzophenone 3 (BP-3) during pregnancy affects critical parameters of pregnancy, and w |
| January 01, 2020 | Local Delivery of Dual MicroRNAs in Trilayered Electrospun Grafts for Vascular Regeneration | Globally growing problems related to cardiovascular diseases lead to a considerable need for synthetic vascular grafts. |
| January 01, 2020 | A durable murine model of spleen transplantation with arterial and venous anastomoses | The spleen is a large lymphoid organ located in the abdomen that filters blood and regulates the immune system. |
| January 01, 2020 | PKM2 Activator TEPP-46 Attenuates Thoracic Aortic Aneurysm and Dissection by Inhibiting NLRP3 Inflammasome-Mediated IL-1β Secretion | Background: The development of thoracic aortic aneurysm and dissection (TAAD) is mediated by inflammasome activation, which exacerbates the secretion |
| 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 |
| 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 initi |
| January 01, 2020 | Intrauterine exposure to chronic hypoxia in the rat leads to progressive diastolic function and increased aortic stiffness from early postnatal developmental stages | Aim: We sought to explore whether fetal hypoxia exposure, an insult of placental insufficiency, is associated with left ventricular dysfunction and in |
| January 01, 2020 | mTORC1 Deficiency Modifies Volume Homeostatic Responses to Dietary Sodium in a Sex-Specific Manner | Mechanistic target of rapamycin (mTOR) pathway plays a role in features common to both excess salt/aldosterone and cardiovascular/renal diseases. |
| January 01, 2020 | Targeted Repair of Vascular Injury by Adipose Derived Stem Cells Modified with P Selectin Binding Peptide | Percutaneous coronary intervention for coronary artery disease treatment often results in pathological vascular injury, characterized by P-selectin ov |
| 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 follow |
| 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 | IKK Epsilon Deficiency Attenuates Angiotensin II-Induced Abdominal Aortic Aneurysm Formation in Mice by Inhibiting Inflammation, Oxidative Stress, and Apoptosis | Abdominal aortic aneurysm (AAA) is a vascular disorder that is considered a chronic inflammatory disease. |

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| January 01, 2020 | Intermedin 1-53 Ameliorates Homocysteine-Promoted Atherosclerotic Calcification by Inhibiting Endoplasmic Reticulum Stress | Aim: Vascular calcification (VC) is thought to be an independent predictor of cardiovascular morbidity and mortality. |
| January 01, 2020 | Human Umbilical Cord Mesenchymal Stem Cells Attenuate Abdominal Aortic Aneurysm Progression in Sprague Dawley Rats: Implication of Vascular Smooth Muscle Cell Phenotypic Modulation | Abdominal aortic aneurysm (AAA) is life-threatening for which efficient non-surgical treatment strategy has not been available so far. |
| January 01, 2020 | Effects of Klotho supplementation on hyperoxia-induced renal injury in a rodent model of postnatal nephrogenesis | Background: Hyperoxia (HO) causes kidney injury in preterm infants; however, whether these effects are modifiable is unknown. |
| January 01, 2020 | Increased uterine artery blood flow in hypoxic murine pregnancy is not sufficient to prevent fetal growth restriction† | Incomplete maternal vascular responses to pregnancy contribute to pregnancy complications including intrauterine growth restriction (IUGR) and preecl |
| January 01, 2020 | Multimodality Imaging-Based Characterization of Regional Material Properties in a Murine Model of Aortic Dissection | Chronic infusion of angiotensin-II in atheroprone (ApoE ^{-/-}) mice provides a reproducible model of dissection in the suprarenal abdominal aorta, often |
| 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 |
| January 01, 2020 | Intravenous Administration of Allogenic Cell-Derived Microvesicles of Healthy Origins Defends Against Atherosclerotic Cardiovascular Disease Development by a Direct Action on Endothelial Progenitor Cells | Atherosclerosis and cardiovascular disease development is the outcome of intermediate processes where endothelial dysfunction and vascular inflammatio |
| January 01, 2020 | Medial calcification in the arterial wall of smooth muscle cell specific Smpd1 transgenic mice: A ceramide mediated vasculopathy | Arterial medial calcification (AMC) is associated with crystallization of hydroxyapatite in the extracellular matrix and arterial smooth muscle cells |
| January 01, 2020 | Increased AT2R expression is induced by AT1R autoantibody via two axes. Klf-5/IRF-1 and circErbB4/miR-29a-5p. to promote VSMC migration | Vascular remodeling can be caused by angiotensin II type 1 receptor (AT1R) autoantibody (AT1-AA), although the related mechanism remains unknown. |
| January 01, 2020 | A 6-month systems toxicology inhalation study in ApoE ^{-/-} mice demonstrates reduced cardiovascular effects of E-vapor aerosols compared with cigarette smoke | Smoking cigarettes is harmful to the cardiovascular system. |
| January 01, 2020 | Acute and chronic vascular effects of inhaled crotonaldehyde in mice: Role of TRPA1 | Although crotonaldehyde (CR) is an abundant α,β -unsaturated aldehyde in mainstream cigarette smoke (MCS), the cardiovascular toxicity of inhaled CR is |
| January 01, 2020 | Mild carotid stenosis creates gradual, progressive, lifelong brain, and eye damage: An experimental laboratory rat model | In humans, carotid stenosis of 70% and above might be the cause of clinical symptoms such as transient ischemic attack and stroke. |
| 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 | Mechanism of angiogenesis promotion with Shexiang Baoxin Pills by regulating function and signaling pathway of endothelial cells through macrophages | Background and aims: "Shexiang Baoxin Pill" (SBP), a commonly used traditional Chinese medicine, has been used to treat angina, myocardial infarction |
| January 01, 2020 | Ultrasound monitoring of magnet-guided delivery of mesenchymal stem cells labeled with magnetic lipid-polymer hybrid nanobubbles | Mesenchymal stem cells labeled with positively charged magnetic lipid-polymer hybrid nanobubbles could be tracked for magnet-guided delivery onto the |

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| January 01, 2020 | Ultrasound/Optical Dual Modality Imaging for Evaluation of Vulnerable Atherosclerotic Plaques with Osteopontin Targeted Nanoparticles | Because of the high mortality of coronary atherosclerotic heart diseases, it is necessary to develop novel early detection methods for vulnerable athe |
| 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 | Neonatal hyperoxia exposure induces aortic biomechanical alterations and cardiac dysfunction in juvenile rats | Supplemental oxygen (O ₂) therapy in preterm infants impairs lung development, but the impact of O ₂ on long-term systemic vascular structure and functi |
| January 01, 2020 | Runx2 (Runt-Related Transcription Factor 2)-Mediated Microcalcification Is a Novel Pathological Characteristic and Potential Mediator of Abdominal Aortic Aneurysm | OBJECTIVE: Abdominal aortic aneurysms (AAAs) are highly lethal diseases without effective clinical predictors and therapeutic targets. |
| January 01, 2020 | Loss of ADAMTS19 causes progressive non-syndromic heart valve disease | Valvular heart disease is observed in approximately 2% of the general population ¹ . |
| January 01, 2020 | Dysbiotic 1 carbon metabolism in cardiac muscle remodeling | Unless there is a genetic defect/mutation/deletion in a gene, the causation of a given disease is chronic dysregulation of gut metabolism. |
| January 01, 2020 | Hyperdynamic circulatory syndrome in a mouse model transgenic for SerpinB3 | Introduction and objectives: SerpinB3 is a cysteine protease inhibitor involved in several biological activities. |
| January 01, 2020 | Loss of PARP-1 attenuates diabetic arteriosclerotic calcification via Stat1/Runx2 axis | Accelerated atherosclerotic calcification is responsible for plaque burden, especially in diabetes. |
| January 01, 2020 | Persistence of Intraluminal Thrombus Makes Saccular Aneurysm More Biologically Active than Fusiform in an Experimental Rat Model | Introduction: Saccular aneurysms are thought to have a worse prognosis than fusiform aneurysms in humans, due to hemodynamic reasons. |
| January 01, 2020 | Mitochondria-targeted antioxidant mitoquinone attenuates liver inflammation and fibrosis in cirrhotic rats | In liver cirrhosis, oxidative stress plays a major role in promoting liver inflammation and fibrosis. |
| January 01, 2020 | Natriuretic Peptide Receptor 2 Locus Contributes to Carotid Remodeling | BACKGROUND: Carotid artery intima/media thickness (IMT) is a hallmark trait associated with future cardiovascular events. |
| January 01, 2020 | Targeting endothelial thioredoxin-interacting protein (TXNIP) protects from metabolic disorder-related impairment of vascular function and post-ischemic revascularisation | Introduction: Although thioredoxin-interacting protein (TXNIP) is involved in a variety of biological functions, the contribution of endothelial TXNIP |
| December 30, 2020 | Inhibition of the Akt1-mTORC1 Axis Alters Venous Remodeling to Improve Arteriovenous Fistula Patency | Arteriovenous fistulae (AVF) are the most common access created for hemodialysis, but up to 60% do not sustain dialysis within a year, suggesting a ne |
| December 27, 2019 | The pro-atherogenic response to disturbed blood flow is increased by a western diet, but not by old age | Atherogenic remodeling often occurs at arterial locations with disturbed blood flow (i.e., low or oscillatory) and both aging and western diet (WD) in |
| December 14, 2019 | In vivo characterization of doxycycline-mediated protection of aortic function and structure in a mouse model of Marfan syndrome-associated aortic aneurysm | Aortic aneurysm is the most life-threatening complication in Marfan syndrome (MFS) patients. |

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| November 01, 2019 | Negative regulation of eNOS-NO signaling by over-SUMOylation of PPARγ contributes to insulin resistance and dysfunction of vascular endothelium in rats | SUMOylation of peroxisome proliferator-activated receptor gamma (PPAR γ) plays important regulatory role in its transcriptional activity. |
| November 01, 2019 | Behavior, body composition, and vascular phenotype of homocystinuric mice on methionine restricted diet or enzyme replacement therapy | Classic homocystinuria (HCU) is an inherited disorder characterized by elevated homocysteine (Hcy) in plasma and tissues resulting from cystathionine |
| November 01, 2019 | Loss of flow responsive Tie1 results in Impaired Aortic valve remodeling | The mechanisms regulating endothelial cell response to hemodynamic forces required for heart valve development, especially valve remodeling, remain |
| November 01, 2019 | "Females Are Not Just 'Protected' Males": Sex-Specific Vulnerabilities in Placenta and Brain after Prenatal Immune Disruption | Current perceptions of genetic and environmental vulnerabilities in the developing fetus are biased toward male outcomes. |
| October 01, 2019 | Regulation of the inflammatory response by vascular grafts modified with Aspirin-Triggered Resolvin D1 promotes blood vessel regeneration | The unabated inflammatory response is often the cause for inhibited vascular regeneration of transplanted small-diameter vascular grafts (diameter |
| October 01, 2019 | Scavenger receptor A1 attenuates aortic dissection via promoting efferocytosis in macrophages | Macrophage class A1 scavenger receptor (SR-A1) is a pattern recognition receptor with an anti-inflammatory feature in cardiovascular diseases. |
| October 01, 2019 | Pioglitazone downregulates Twist-1 expression in the kidney and protects renal function of Zucker diabetic fatty rats | Aims: Renal interstitial fibrosis and glomerulosclerosis are the characteristic presentation of diabetic nephropathy progression. |
| October 01, 2019 | Elevated luteinizing hormone contributes to atherosclerosis formation by inhibiting nitric oxide synthesis via PI3K/Akt pathway | Background: The contentious effects of estrogen therapy on the risk of postmenopausal cardiovascular disease (CVD) indicate that this type of atherosclerosis |
| September 01, 2019 | Increased mitochondrial NADPH oxidase 4 (NOX4) expression in aging is a causative factor in aortic stiffening | Aging is characterized by increased aortic stiffness, an early, independent predictor and cause of cardiovascular disease. |
| 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 skeletal |
| May 01, 2019 | Z-Ligustilide protects vascular endothelial cells from oxidative stress and rescues high fat diet-induced atherosclerosis by activating multiple NRF2 downstream genes | Background and aims: Oxidative stress-induced endothelial dysfunction is considered to exert a vital role in the development of atherosclerotic corona |
| 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) vasculature |
| March 01, 2019 | Mas receptor deficiency augments angiotensin II-induced atherosclerosis and aortic aneurysm ruptures in hypercholesterolemic male mice | Clinical Relevance: Results from this study suggest a novel mode of intervening in the renin-angiotensin system to treat vascular diseases, namely, by |
| February 27, 2019 | Fluid dynamics and forces in the HH25 avian embryonic outflow tract | The embryonic outflow tract (OFT) eventually undergoes aorticopulmonary septation to form the aorta and pulmonary artery, and it is hypothesized that |

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| February 01, 2019 | Effects of low-dose oxygen ions and protons on cardiac function and structure in male C57BL/6J mice | Purpose: Astronauts traveling beyond low-Earth orbit will be exposed to high linear-energy transfer charged particles. |
| February 01, 2019 | Functionalized polymer microbubbles as new molecular ultrasound contrast agent to target P-selectin in thrombus | Thrombotic diseases rarely cause symptoms until advanced stage and sudden death. |
| February 01, 2019 | Recent strategies on targeted delivery of thrombolytics | Thrombus formed in blood vessel is a progressive process, which would lead to life-threatening thrombotic diseases such as ischemic stroke. |
| February 01, 2019 | Magnesium but not nicotinamide prevents vascular calcification in experimental uraemia | Background. Optimal phosphate control is an unmet need in chronic kidney disease (CKD). |
| 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 22, 2019 | Endothelial signaling by neutrophil-released oncostatin M enhances P-selectin-dependent inflammation and thrombosis | In the earliest phase of inflammation, histamine and other agonists rapidly mobilize P-selectin to the apical membranes of endothelial cells, where it |
| January 19, 2019 | ROBO4 variants predispose individuals to bicuspid aortic valve and thoracic aortic aneurysm | Bicuspid aortic valve (BAV) is a common congenital heart defect (population incidence, 1–2%) ^{1–3} that frequently presents with ascending aortic aneurys |
| January 10, 2019 | Implantation of VEGF-functionalized cell-free vascular grafts: regenerative and immunological response | Recently, our group demonstrated that immobilized VEGF can capture flowing endothelial cells (ECs) from the blood in vitro and promote endothelialization and |
| January 01, 2019 | Fetal growth outcomes following peri-implantation exposure of Long-Evans rats to noise and ozone differ by sex | Background: Exposure to air pollution and high levels of noise have both been independently associated with the development of adverse pregnancy outco |
| January 01, 2019 | Age-dependent characterization of the carotid and cerebral artery morphologies in a transgenic mouse model of sickle cell anemia using ultrasound and microcomputed tomography | Children with sickle cell anemia have elevated stroke risks as well as other arterial complications, but morphological changes to large arteries are n |
| January 01, 2019 | Aspirin pre-treatment modulates ozone-induced fetal growth restriction and alterations in uterine blood flow in rats | Prenatal exposure to ozone has been linked to low birth weight in people and fetal growth restriction in rats. |
| January 01, 2019 | Vascular impact of quercetin administration in association with moderate exercise training in experimental type 1 diabetes | Hyperglycemia and oxidative stress have a major role in the pathogenesis of diabetic vascular complications. |
| January 01, 2019 | Renal cystic disease in the Fbn1C1039G/+ Marfan mouse is associated with enhanced aortic aneurysm formation | Marfan syndrome (MFS) is a connective tissue disorder caused by mutations in the fibrillin-1 gene (FBN1), resulting in aortic aneurysm formation and d |
| January 01, 2019 | Fibroblast Growth Factor 21 Attenuates Vascular Calcification by Alleviating Endoplasmic Reticulum Stress Mediated Apoptosis in Rats | Fibroblast growth factor 21 (FGF21), a hormone with multiple metabolic properties, has proven to be pleiotropic biological effects and may play pivota |
| January 01, 2019 | The flagellin-TLR5-Nox4 axis promotes the migration of smooth muscle cells in atherosclerosis | We hypothesized that NADPH oxidase 4 (Nox4) is involved in the formation of neointimal atherosclerotic plaques through the migration of smooth muscle |

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| January 01, 2019 | Assessment of Age-related Oxygenation Changes in Calf Skeletal Muscle by Photoacoustic Imaging: A Potential Tool for Peripheral Arterial Disease | Peripheral artery disease is often asymptomatic, and various imaging and nonimaging techniques have been used for assessment and monitoring treatments |
| January 01, 2019 | Hypoxia inducible factor 1α in vascular smooth muscle cells promotes angiotensin II-induced vascular remodeling via activation of CCL7-mediated macrophage recruitment | The process of vascular remodeling is associated with increased hypoxia. |
| January 01, 2019 | Pigment Epithelial Derived Factor Deficiency Accelerates Atherosclerosis Development via Promoting Endothelial Fatty Acid Uptake in Mice With Hyperlipidemia | Background: Endothelial cell injury, induced by dyslipidemia, is the initiation of atherosclerosis, resulting in an imbalance in endothelial fatty aci |
| January 01, 2019 | Bilayered Polymeric Micro- and Nanofiber Vascular Grafts as Abdominal Aorta Replacements: Long-Term in Vivo Studies in a Rat Model | In vivo long-term evaluation of degradable implants offers valuable information for the further design and optimization of biomaterials. |
| January 01, 2019 | Effects of Iliac Stenosis on Abdominal Aortic Aneurysm Formation in Mice and Humans | Reduced lower-limb blood flow has been shown to lead to asymmetrical abdominal aortic aneurysms (AAAs) but the mechanism of action is not fully unders |
| January 01, 2019 | Cell proliferation detected using [18F]FLT PET/CT as an early marker of abdominal aortic aneurysm | Background: Abdominal aortic aneurysm (AAA) is a focal aortic dilatation progressing towards rupture. |
| January 01, 2019 | Vimentin regulates Notch signaling strength and arterial remodeling in response to hemodynamic stress | The intermediate filament (IF) cytoskeleton has been proposed to regulate morphogenic processes by integrating the cell fate signaling machinery with |
| 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 | In vivo engineered extracellular matrix scaffolds with instructive niches for oriented tissue regeneration | Implanted scaffolds with inductive niches can facilitate the recruitment and differentiation of host cells, thereby enhancing endogenous tissue regene |
| January 01, 2019 | Site-specific chelation therapy with EDTA-loaded albumin nanoparticles reverses arterial calcification in a rat model of chronic kidney disease | Medial arterial calcification (MAC) is a common outcome in diabetes and chronic kidney disease (CKD). |
| January 01, 2019 | Hypoxia-Induced miR-210 Is Necessary for Vascular Regeneration upon Acute Limb Ischemia | Critical limb ischemia is the most serious form of peripheral artery disease, characterized by severe functional consequences, difficult clinical mana |
| January 01, 2019 | Aortic pathology from protein kinase G activation is prevented by an antioxidant vitamin B12 analog | People heterozygous for an activating mutation in protein kinase G1 (PRKG1, p.Arg177Gln) develop thoracic aortic aneurysms and dissections (TAAD) as y |
| January 01, 2019 | Resolvin D4 attenuates the severity of pathological thrombosis in mice | Deep vein thrombosis (DVT) is a common cardiovascular disease with a major effect on quality of life, and safe and effective therapeutic measures to e |
| January 01, 2019 | Stimulation of Caveolin-1 Signaling Improves Arteriovenous Fistula Patency | Objective—Arteriovenous fistulae (AVF) are the most common access created for hemodialysis; however, many AVF fail to mature and require repeated inte |
| January 01, 2019 | Scutellarin Prevents Angiogenesis in Diabetic Retinopathy by Downregulating VEGF/ERK/FAK/Src Pathway Signaling | Background . Diabetic retinopathy (DR) is a serious microvascular complication of diabetes. |

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| December 24, 2018 | MicroRNA-217 attenuates intima-media complex thickness of ascending aorta measured by ultrasound bio-microscopy and inhibits inflammation and lipid metabolism in atherosclerotic models of ApoE-/- mice | Background: Little investigation was done to test the efficiency of microRNA-217 (miR-217) on atherosclerosis in vivo. |
| December 18, 2018 | The effect of the heart rate lowering drug Ivabradine on hemodynamics in atherosclerotic mice | The heart rate lowering drug Ivabradine was shown to improve cardiac outcome in patients with previous heart failure. |
| December 16, 2018 | Alcohol Consumption in Combination with an Atherogenic Diet Increased Indices of Atherosclerosis in Apolipoprotein E/Low Density Lipoprotein Receptor Double Knockout Mice | BACKGROUND Alcohol abuse and adherence to atherogenic diet (AD; a low-carbohydrate-high-protein diet) have been positively associated with cardiovascular |
| December 16, 2018 | Natural killer cells induce neutrophil extracellular trap formation in venous thrombosis | Summary. |
| December 01, 2018 | Clarifying the relative impacts of vascular and nerve injury that culminate in erectile dysfunction in a pilot study using a rat model of prostate irradiation and a thrombopoietin mimetic | PURPOSE: Radiation therapy (RT) offers an important and curative approach to treating prostate cancer but is associated with a high incidence of erect |
| December 01, 2018 | Rosuvastatin stabilizes atherosclerotic plaques by reducing CD40L overexpression-induced downregulation of P4Hα1 in ApoE-/- mice | Background Cluster of differentiation 40 ligand (CD40L) and rosuvastatin (RSV) affect atherosclerotic plaque stability, but little is known about thei |
| December 01, 2018 | Brg1 trans-activates endothelium-derived colony stimulating factor to promote calcium chloride induced abdominal aortic aneurysm in mice | Endothelial cell derived secretive factors play pivotal roles maintaining the homeostasis by influencing the behaviors of other cells. |
| December 01, 2018 | The GLP-1 Analogs Liraglutide and Semaglutide Reduce Atherosclerosis in ApoE-/- and LDLr-/- Mice by a Mechanism That Includes Inflammatory Pathways | The glucagon-like peptide-1 receptor agonists (GLP-1RAs) liraglutide and semaglutide reduce cardiovascular risk in type 2 diabetes patients. |
| November 13, 2018 | Noninvasive in vivo Assessment of the Re-endothelialization Process Using Ultrasound Biomicroscopy in the Rat Carotid Artery Balloon Injury Model | Objectives—Ultrasound biomicroscopy (UBM), or ultra high-frequency ultrasound, is a technique used to assess the anatomy of small research animals. |
| November 06, 2018 | Statins Reduce Thoracic Aortic Aneurysm Growth in Marfan Syndrome Mice via Inhibition of the Ras Induced ERK (Extracellular Signal Regulated Kinase) Signaling Pathway | Background Statins reduce aneurysm growth in mouse models of Marfan syndrome, although the mechanism is unknown. |
| November 01, 2018 | Biodegradable and elastomeric vascular grafts enable vascular remodeling | Implanted grafts, including vascular substitutes, inevitably experience remodeling by host cells. |
| September 07, 2018 | Combining in vivo and in vitro biomechanical data reveals key roles of perivascular tethering in central artery function | Considerable insight into effectors of cardiovascular function can be gleaned from controlled studies on mice, especially given the diverse models tha |
| 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. |
| September 01, 2018 | Bone marrow-derived mononuclear cell seeded bioresorbable vascular graft improves acute graft patency by inhibiting thrombus formation via platelet adhesion | Background: Acute thrombosis is a crucial cause of bioresorbable vascular graft (BVG) failure. |
| July 31, 2018 | Fast Vessel Segmentation and Tracking in Ultra High-Frequency Ultrasound Images. | Ultra High Frequency Ultrasound (UHFUS) enables the visualization of highly deformable small and medium vessels in the hand. |

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| July 18, 2018 | The Murine Dialysis Fistula Model Exhibits a Senescence Phenotype: Pathobiologic Mechanisms and Therapeutic Potential | There is no therapy that promotes maturation and functionality of a dialysis arteriovenous fistula (AVF). |
| July 01, 2018 | Inhibition of prolyl hydroxylase domain proteins selectively enhances venous thrombus neovascularisation | BACKGROUND: Hypoxia within acute venous thrombi is thought to drive resolution through stabilisation of hypoxia inducible factor 1 alpha (HIF1 α). |
| June 15, 2018 | Angiotensin II receptor I blockade prevents stenosis of tissue engineered vascular grafts | We previously developed a tissue-engineered vascular graft (TEVG) made by seeding autologous cells onto a biodegradable tubular scaffold, in an attempt |
| June 12, 2018 | The endothelial tumor suppressor p53 is essential for venous thrombus formation in aged mice | Venous thromboembolism (VTE) is a leading cause of morbidity and mortality in elderly people. |
| June 10, 2018 | Pulmonary Arterial Hypertension and Endothelial Dysfunction Is Linked to NADPH Oxidase-Derived Superoxide Formation in Venous Thrombosis and Pulmonary Embolism in Mice | Pulmonary embolism (PE) results from deep vein thrombosis (DVT) and can lead to chronic thromboembolic pulmonary hypertension (CTEPH) involving vascul |
| May 24, 2018 | Perivascular Adipose Tissue-Derived PDGF-D Contributes to Aortic Aneurysm Formation during Obesity | Obesity increases the risk of vascular diseases, including aortic aneurysm (AA). |
| May 18, 2018 | Ginkgo biloba extracts prevent aortic rupture in angiotensin II-infused hypercholesterolemic mice | Abdominal aortic aneurysms (AAAs) are a chronic vascular disease characterized by pathological luminal dilation. |
| April 01, 2018 | Diabetes Reduces Severity of Aortic Aneurysms Depending on the Presence of Cell Division Autoantigen 1 (CDA1) | Diabetes is a negative risk factor for aortic aneurysm, but the underlying explanation for this phenomenon is unknown. |
| April 01, 2018 | Red blood cell antibody-induced anemia causes differential degrees of tissue hypoxia in kidney and brain | Moderate anemia is associated with increased mortality and morbidity, including acute kidney injury (AKI), in surgical patients. |
| March 15, 2018 | The large-conductance voltage- and Ca²⁺-activated K⁺ channel and its γ1-subunit modulate mouse uterine artery function during pregnancy | The uterine artery (UA) markedly vasodilates during pregnancy to direct blood flow to the developing fetus. |
| March 08, 2018 | MicroRNA-21 Knockout Exacerbates Angiotensin II-Induced Thoracic Aortic Aneurysm and Dissection in Mice With Abnormal Transforming Growth Factor-β-SMAD3 Signaling | Objective—Thoracic aortic aneurysm and dissection (TAAD) are severe vascular conditions. |
| March 02, 2018 | Minoxidil improves vascular compliance, restores cerebral blood flow and alters extracellular matrix gene expression in a model of chronic vascular stiffness | Increased vascular stiffness correlates with higher risk of cardiovascular complications in aging adults. |
| February 16, 2018 | Effects of teriparatide on morphology of aortic calcification in aged hyperlipidemic mice | Calcific aortic vasculopathy correlates with bone loss in osteoporosis in an age-independent manner. |
| February 12, 2018 | In vitro photoacoustic spectroscopy of pulsatile blood flow: probing the interrelationship between red blood cell aggregation and oxygen saturation | Assessments of the appropriateness and inappropriateness of behaviors may influence conflict, cohesion, and goal attainment in multinational organization |
| January 18, 2018 | Pulmonary vascular dysfunction secondary to pulmonary arterial hypertension: Insights gained through retrograde perfusion | Here, we tested the hypothesis that severe pulmonary arterial hypertension impairs retrograde perfusion. |
| January 02, 2018 | Alternative RNA splicing in the endothelium mediated in part by Rbfox2 regulates the arterial response to low flow | Low and disturbed blood flow drives the progression of arterial diseases including atherosclerosis and aneurysms. |
| January 01, 2018 | Lipid-Lowering Therapy With Ezetimibe Decreases Spontaneous Atherothrombotic Occlusions in a Rabbit Model of Plaque Erosion | OBJECTIVE: Plaque erosion is increasing its importance as one of the mechanisms of acute coronary syndromes in this statin era. |

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| January 01, 2018 | Angiotensin-(1-7)-induced Mas receptor activation attenuates atherosclerosis through a nitric oxide-dependent mechanism in apolipoproteinE-KO mice | © 2018 Springer-Verlag GmbH Germany, part of Springer Nature Angiotensin (Ang)-(1-7) ameliorates vascular injury by increasing nitric oxide (NO) bioav |
| January 01, 2018 | Notoginsenoside R1, a unique constituent of Panax notoginseng, blinds proinflammatory monocytes to protect against cardiac hypertrophy in ApoE-/- mice | Notoginsenoside R1, a unique constituent from the root of Panax notoginseng, exerts anti-inflammatory, anti-oxidative and anti-apoptotic properties. |
| January 01, 2018 | Increased Calcific Aortic Valve Disease in response to a diabetogenic, procalcific diet in the LDLr-/-ApoB100/100mouse model | Objective: Calcific aortic valve disease (CAVD) is a major cause of aortic stenosis (AS) and cardiac insufficiency. |
| January 01, 2018 | Identification of type IV collagen exposure as a molecular imaging target for early detection of thoracic aortic dissection | Thoracic aortic dissection (TAD) is an aggressive and life-threatening vascular disease and there is no effective means of early diagnosis of dissecti |
| January 01, 2018 | Lack of T-bet reduces monocytic interleukin-12 formation and accelerates thrombus resolution in deep vein thrombosis | © 2018 The Author(s). The role of leukocytes in deep vein thrombosis (DVT) resolution is incompletely understood. |
| January 01, 2018 | Motion model ultrasound localization microscopy for preclinical and clinical multiparametric tumor characterization | Super-resolution imaging methods promote tissue characterization beyond the spatial resolution limits of the devices and bridge the gap between histop |
| January 01, 2018 | Glucagon-like peptide-1 receptor antagonism impairs basal exercise capacity and vascular adaptation to aerobic exercise training in rats | Cardiorespiratory fitness (CRF) inversely predicts cardiovascular (CV) mortal- ity and CRF is impaired in people with type 2 diabetes (T2D). |
| January 01, 2018 | Sympathetic Neuronal Activation Triggers Myeloid Progenitor Proliferation and Differentiation | There is a growing body of research on the neural control of immunity and inflammation. |
| January 01, 2018 | Alterations of Ocular Hemodynamics Impair Ophthalmic Vascular and Neuroretinal Function | Hypertension is associated with numerous diseases, but its direct impact on the ocular circulation and neuroretinal function remains unclear. |
| January 01, 2018 | Protein-1) in Smooth Muscle Cells Protects Mice From Abdominal Aortic Aneurysms | Abdominal aortic aneurysm (AAA) has high mortality rate when ruptured, but currently, there is no proven pharmacological therapy for AAA because of ou |
| January 01, 2018 | Inhibition of endoplasmic reticulum stress by intermedin1-53 attenuates angiotensin II-induced abdominal aortic aneurysm in ApoE KO Mice | Endoplasmic reticulum stress (ERS) is involved in the development of abdominal aortic aneurysm (AAA). |
| January 01, 2018 | Elevated 20-HETE in metabolic syndrome regulates arterial stiffness and systolic hypertension via MMP12 activation | Arterial stiffness plays a causal role in development of systolic hypertension. |
| January 01, 2018 | A biodegradable synthetic graft for small arteries matches the performance of autologous vein in rat carotid arteries | Autologous veins are the most widely used grafts for bypassing small arteries in coronary and peripheral arterial occlusive diseases. |
| January 01, 2018 | Cohort-based multiscale analysis of hemodynamic-driven growth and remodeling of the embryonic pharyngeal arch arteries | Growth and remodeling of the primitive pharyngeal arch artery (PAA) network into the extracardiac great vessels is poorly understood but a major sourc |
| January 01, 2018 | Ganoderma Triterpenoids Exert Antiatherogenic Effects in Mice by Alleviating Disturbed Flow-Induced Oxidative Stress and Inflammation | Ganoderma mushrooms, used in traditional Chinese medicine to promote health and longevity, have become widely accepted as herbal supplements. |
| January 01, 2018 | A context-specific cardiac β-catenin and GATA4 interaction influences TCF7L2 occupancy and remodels chromatin driving disease progression in the adult heart | Chromatin remodelling precedes transcriptional and structural changes in heart failure. |

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| January 01, 2018 | Chronic exposure to electronic cigarette (E-cig) results in impaired cardiovascular function in mice | Proponents for electronic cigarettes(E-cigs) claim they are a safe alternative to smoking tobacco-based cigarettes,however little is known about the l |
| January 01, 2018 | Gut-dependent microbial translocation induces inflammation and cardiovascular events after ST-elevation myocardial infarction | Background: Post-infarction cardiovascular remodeling and heart failure are the leading cause of myocardial infarction (MI)-driven death during the pa |
| January 01, 2018 | Upregulation of Vascular Endothelial Growth Factor in Amniotic Fluid Stem Cells Enhances Their Potential to Attenuate Lung Injury in a Preterm Rabbit Model of Bronchopulmonary Dysplasia | BACKGROUND: Bronchopulmonary dysplasia (BPD) is a chronic lung disease that affects extremely preterm infants and remains - despite improvements in ne |
| January 01, 2018 | The chronic complex stress combined atherogenic diet accelerates the process of atherosclerosis in mice | The effects of stress on the atherosclerosis are complex. |
| January 01, 2018 | CXCL8 hyper-signaling in the aortic abdominal aneurysm | There are indications for elevated CXCL8 levels in abdominal aortic aneurysm disease (AAA). |
| January 01, 2018 | Cell Type-Specific Contributions of the Angiotensin II Type 1a Receptor to Aorta Homeostasis and Aneurysmal Disease | OBJECTIVE Two were the aims of this study: first, to translate whole-genome expression profiles into computational predictions of functional associati |
| January 01, 2018 | Chemokine CC-motif ligand 2 participates in platelet function and arterial thrombosis by regulating PKCα-P38MAPK-HSP27 pathway | Background: Studies indicate that chemokine CC-motif ligand 2 (CCL2) is involved in inflammation and atherosclerosis. |
| January 01, 2018 | Simultaneous ablation of uterine natural killer cells and uterine mast cells in mice leads to poor vascularization and abnormal doppler measurements that compromise fetal well-being | Intrauterine growth restriction (IUGR) is a serious pregnancy complication with short- and long-term health consequences. |
| January 01, 2018 | Angiotensin II Infusion Does Not Cause Abdominal Aortic Aneurysms in Apolipoprotein E-Deficient Rats | The apolipoprotein E-deficient (apoE $-/-$) mouse model has advanced our understanding of cardiovascular disease mechanisms and experimental therapeut |
| January 01, 2018 | Role of Acid Sphingomyelinase and Ceramide in Mechano-Acoustic Enhancement of Tumor Radiation Responses | Background: High-dose radiotherapy (>8-10 Gy) causes rapid endothelial cell death via acid sphingomyelinase (ASMase)-induced ceramide production, resu |
| January 01, 2018 | The complement C3a-C3aR axis promotes development of thoracic aortic dissection via regulation of MMP2 expression | © 2018 by The American Association of Immunologists, Inc. All rights reserved. |
| January 01, 2018 | Improved photoacoustic-based oxygen saturation estimation with SNR-regularized local fluence correction | As photoacoustic (PA) imaging makes its way into the clinic, accuracy of PA-based metrics becomes increasingly important. |
| January 01, 2018 | In vivo inhibition of nuclear factor of activated T-cells leads to atherosclerotic plaque regression in IGF-II/LDLR $-/-$ ApoB 100/100 mice | Aims:Despite vast clinical experience linking diabetes and atherosclerosis, the molecular mechanisms leading to accelerated vascular damage are still |
| January 01, 2018 | Four Surgical Modifications to the Classic Elastase Perfusion Aneurysm Model Enable Haemodynamic Alterations and Extended Elastase Perfusion | OBJECTIVE/BACKGROUND: Abdominal aortic aneurysm (AAA) is an individual and socioeconomic burden in today's ageing society. |
| January 01, 2018 | Vascular endothelial function is impaired by aerosol from a single IQOS HeatStick to the same extent as by cigarette smoke | Background Heated tobacco products (also called 'heat-not-burn' products) heat tobacco at temperatures below that of combustion, causing nicotine and |

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| January 01, 2018 | Temporal and spatial changes in wall shear stress during atherosclerotic plaque progression in mice | Wall shear stress (WSS) is involved in atherosclerotic plaque initiation, yet its role in plaque progression remains unclear. |
| January 01, 2018 | Copper sulfide nanoparticles as a photothermal switch for TRPV1 signaling to attenuate atherosclerosis | Atherosclerosis is characterized by the accumulation of lipids within the arterial wall. |
| January 01, 2018 | Deep Vein Thrombosis Induced by Stasis in Mice Monitored by High Frequency Ultrasonography. | Venous thrombosis is a common condition affecting 1 - 2% of the population, with an annual incidence of 1 in 500. |
| January 01, 2018 | Rapamycin prevents thoracic aortic aneurysm and dissection in mice | Objective: The purpose of this study was to investigate whether rapamycin inhibits the development of thoracic aortic aneurysm and dissection (TAAD) i |
| January 01, 2018 | Vascular Remodeling Process of Heparin-Conjugated Poly(ϵ-Caprolactone) Scaffold in a Rat Abdominal Aorta Replacement Model | In the field of vascular graft research, poly- ϵ -caprolactone (PCL) is used owing to its good mechanical strength and biocompatibility. |
| January 01, 2018 | Transcriptional regulation mediated by H2A.Z via ANP32e-dependent inhibition of protein phosphatase 2A | The mechanisms that regulate H2A.Z and its requirement for transcription in differentiated mammalian cells remains ambiguous. |
| January 01, 2018 | Diet-induced obesity alters the maternal metabolome and early placenta transcriptome and decreases placenta vascularity in the mouse | Obesity in a mouse model leads to alterations in the maternal metabolome and early placenta transcriptome as well as changes in vascularity later in g |
| January 01, 2018 | Restoring mitochondrial DNA copy number preserves mitochondrial function and delays vascular aging in mice | Aging is the largest risk factor for cardiovascular disease, yet the molecular mechanisms underlying vascular aging remain unclear. |
| January 01, 2018 | Rho Kinase Inhibitor , Fasudil , Attenuates Contrast-induced Acute Kidney Injury | Abstract: In this study, we tested the hypothesis that fasudil, a Rho kinase inhibitor, would protect against contrast-induced acute kidney injury (CI |
| January 01, 2018 | Increased placental T cell trafficking results in adverse neurobehavioral outcomes in offspring exposed to sub-chronic maternal inflammation | Interleukin-1 beta (IL-1 β) is a cytokine mediator of perinatal brain injury. |
| January 01, 2018 | Systemic Upregulation of IL-10 (Interleukin-10) Using a Nonimmunogenic Vector Reduces Growth and Rate of Dissecting Abdominal Aortic Aneurysm | Original Research Systemic Upregulation of IL-10 (Interleukin-10) Using a Nonimmunogenic Vector Reduces Growth and Rate of Dissecting Abdominal Aortic |
| December 17, 2017 | Large is required for normal astrocyte migration and retinal vasculature development | Background: Persistent fetal vasculature (PFV) is a congenital developmental anomaly of the eye that accounts for about 5% of childhood blindness. |
| December 04, 2017 | The Hippo signaling pathway: a potential therapeutic target is reversed by a Chinese patent drug in rats with diabetic retinopathy | Background: The Hippo signaling pathway is reported to be involved in angiogenesis, but the roles of the Hippo pathway in diabetic retinopathy have no |
| December 01, 2017 | Novel application and serial evaluation of tissue-engineered portal vein grafts in a murine model | Aim: Surgical management of pediatric extrahepatic portal vein obstruction requires meso-Rex bypass using autologous or synthetic grafts. |

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| August 10, 2017 | Sustained Placental Growth Factor-2 Treatment Does Not Aggravate Advanced Atherosclerosis in Ischemic Cardiomyopathy | Angiogenic growth factor therapy for ischemic cardiovascular disease carries a risk of stimulating atherosclerotic plaque growth. |
| August 01, 2017 | A Novel Murine Model of Marfan Syndrome Accelerates Aortopathy and Cardiomyopathy | Background. Marfan syndrome (MFS) represents a genetic disorder with variable phenotypic expression. |
| June 27, 2017 | Fibrin-Targeted and H₂O₂-Responsive Nanoparticles as a Theranostics for Thrombosed Vessels | A thrombus (blood clot) is formed in injured vessels to maintain the integrity of vasculature. |
| June 13, 2017 | Role of Bone Marrow Mononuclear Cell Seeding for Nanofiber Vascular Grafts | OBJECTIVE: Electrospinning is a promising technology that provides biodegradable nanofiber scaffolds for cardiovascular tissue engineering. |
| June 09, 2017 | Loss of Smooth Muscle α-Actin Leads to NF-κB-Dependent Increased Sensitivity to Angiotensin II in Smooth Muscle Cells and Aortic Enlargement Novelty and Significance | RATIONALE Mutations in ACTA2, encoding the smooth muscle isoform of α -actin, cause thoracic aortic aneurysms, acute aortic dissections, and occlusive |
| June 01, 2017 | Loss of MURC/Cavin-4 induces JNK and MMP-9 activity enhancement in vascular smooth muscle cells and exacerbates abdominal aortic aneurysm | Abdominal aortic aneurysm (AAA) is relatively common in elderly patients with atherosclerosis. |
| June 01, 2017 | Establishment and evaluation of a reversible two-kidney, one-clip renovascular hypertensive rat model | The aim of the present study was to establish and evaluate a novel and reversible two-kidney, one-clip renovascular hypertensive rat model with a ti |
| June 01, 2017 | Reduced arterial elasticity due to surgical skeletonization is ameliorated by abluminal PEG hydrogel | Arteries for bypass grafting are harvested either with neighboring tissue attached or as skeletonized vessels that are free of surrounding tissue. |
| May 09, 2017 | Effect of chronic estradiol plus progesterone treatment on experimental arterial and venous thrombosis in mouse | Postmenopausal hormone replacement therapy (HRT) with estrogen plus progestogens is the first line therapy to treat menopausal symptoms. |
| May 02, 2017 | Deficient Circumferential Growth Is the Primary Determinant of Aortic Obstruction Attributable to Partial Elastin Deficiency Highlights | Objective—Williams syndrome is characterized by obstructive aortopathy attributable to heterozygous loss of ELN, the gene encoding elastin. |
| April 10, 2017 | Cytoglobin regulates blood pressure and vascular tone through nitric oxide metabolism in the vascular wall | The identity of the specific nitric oxide dioxygenase (NOD) that serves as the main in vivo regulator of O ₂ -dependent NO degradation in smooth muscle |
| April 01, 2017 | Inhibition or deletion of angiotensin II type 1 receptor suppresses elastase-induced experimental abdominal aortic aneurysms | Objective: Angiotensin (Ang) II type 1 receptor (AT1) activation is essential for the development of exogenous Ang II-induced abdominal aortic aneurys |
| April 01, 2017 | Long term miR 29b suppression reduces aneurysm formation in a Marfan mouse model | Aortic root aneurysm formation and subsequent dissection and/or rupture remain the leading cause of death in patients with Marfan syndrome. |
| April 01, 2017 | Epoetin beta pegol ameliorates flow-mediated dilation with improving endothelial nitric oxide synthase coupling state in nonobese diabetic rats | BACKGROUND/AIMS: Patients with diabetic nephropathy have a high cardiovascular mortality. |
| March 29, 2017 | Development of a Glycosaminoglycan Derived, Selectin Targeting Anti-Adhesive Coating to Treat Endothelial Cell Dysfunction | Endothelial cell (EC) dysfunction is associated with many disease states including deep vein thrombosis (DVT), chronic kidney disease, sepsis and diab |

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| March 24, 2017 | Chronic PARP-1 inhibition reduces carotid vessel remodeling and oxidative damage of the dorsal hippocampus in spontaneously hypertensive rats | Vascular remodeling during chronic hypertension may impair the supply of tissues with oxygen, glucose and other compounds, potentially unleashing dele |
| March 09, 2017 | A comparative study of the characterization of miR-155 in knockout mice | miR-155 is one of the most important miRNAs and plays a very important role in numerous biological processes. |
| 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 controversia |
| March 01, 2017 | Murine ultrasound-guided transabdominal para-aortic injections of self-assembling type I collagen oligomers | Abdominal aortic aneurysms (AAAs) represent a potentially life-threatening condition that predominantly affects the infrarenal aorta. |
| February 20, 2017 | Dual-acting biofunctionalised scaffolds for applications in regenerative medicine | Off the shelf scaffolds for replacing ultra-small diameter vascular grafts are valuable for reconstruction of diseased or damaged vessels. |
| February 14, 2017 | Deletion of Hypoxia-Inducible Factor-1α in Myeloid Lineage Exaggerates Angiotensin II-Induced Formation of Abdominal Aortic Aneurysm | Hypoxia-inducible factor (HIF)-1 α is a transcription factor that regulates various genes responding to hypoxic conditions. |
| February 14, 2017 | Ultrasound-based Pulse Wave Velocity Evaluation in Mice | Arterial stiffness can be evaluated by calculating pulse wave velocity (PWV), i.e., the speed with which the pulse wave travels in a conduit vessel. |
| February 01, 2017 | Dual effects of fructose on ChREBP and FoxO1/3α are responsible for AldoB up-regulation and vascular remodelling | Increased production of methylglyoxal (MG) in vascular tissues is one of the causative factors for vascular remodeling in different subtypes of metabo |
| February 01, 2017 | Increased Oxidative Stress and Hypoxia Inducible Factor-1 Expression during Arteriovenous Fistula Maturation | BACKGROUND: The poor clinical results that are frequently reported for arteriovenous fistulae (AVF) for hemodialysis are typically due to failure of A |
| February 01, 2017 | In vivo photoacoustic lipid imaging in mice using the second near-infrared window | Photoacoustic imaging has emerged as a promising technique to improve preclinical and clinical imaging by providing users with label-free optical cont |
| January 24, 2017 | Female Mice With an XY Sex Chromosome Complement Develop Severe Angiotensin II-Induced Abdominal Aortic AneurysmsClinical Perspective | Background—Abdominal aortic aneurysms (AAAs) are a deadly pathology with strong sexual dimorphism. |
| January 12, 2017 | Mutations in HYAL2, Encoding Hyaluronidase 2, Cause a Syndrome of Orofacial Clefting and Cor Triatriatum Sinister in Humans and Mice | Orofacial clefting is amongst the most common of birth defects, with both genetic and environmental components. |
| January 09, 2017 | Nitric oxide mediates aortic disease in mice deficient in the metalloprotease Adamts1 and in a mouse model of Marfan syndrome | Heritable thoracic aortic aneurysms and dissections (TAAD), including Marfan syndrome (MFS), currently lack a cure, and causative mutations have been |
| January 01, 2016 | Toll-like receptor-4 signaling pathway in aorta aging and diseases: "its double nature" | Recent advances in the field of innate immunity have revealed a complex role of innate immune signaling pathways in both tissue homeostasis and diseas |
| January 01, 2016 | Targeting Interleukin-1β Protects from Aortic Aneurysms Induced by Disrupted Transforming Growth Factor β Signaling | Aortic aneurysms are life-threatening conditions with effective treatments mainly limited to emergency surgery or trans-arterial endovascular stent gr |

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| January 01, 2016 | Altered Penile Caveolin Expression in Diabetes: Potential Role in Erectile Dysfunction | Background The pathophysiology of increased severity of erectile dysfunction in men with diabetes and their poor response to oral pharmacotherapy are |
| January 01, 2016 | Improving in vivo outcomes of decellularized vascular grafts via incorporation of a novel extracellular matrix | Each year, hundreds of thousands coronary bypass procedures are performed in the US, yet there currently exists no off-the-shelf alternative to autolo |
| January 01, 2016 | Deficiency of CCAAT/enhancer-binding protein homologous protein (CHOP) prevents diet-induced aortic valve calcification in vivo | Aortic valve (AoV) calcification is common in aged populations. |
| January 01, 2016 | Oral chromium picolinate impedes hyperglycemia-induced atherosclerosis and inhibits proatherogenic protein TSP-1 expression in STZ-induced type 1 diabetic ApoE -/- mice | Increasing evidence suggests thrombospondin-1 (TSP-1), a potent proatherogenic matricellular protein, as a putative link between hyperglycemia and ath |
| January 01, 2016 | DBZ (Danshensu Bingpian Zhi), a novel natural compound derivative, attenuates atherosclerosis in apolipoprotein E-Deficient mice | Background-DBZ (Danshensu Bingpian Zhi), a synthetic derivative of a natural compound found in traditional Chinese medicine, has been reported to supp |
| January 01, 2016 | Comparison of very-high-frequency ultrasound assessment of radial arterial wall layers after first and repeated transradial coronary procedures | BACKGROUND Transradial coronary procedure (TRP) traumatizes the radial artery (RA), especially resulting in changes to arterial wall morphology. |
| January 01, 2016 | 5-HT causes splanchnic venodilation | Serotonin [5-hydroxytryptamine (5-HT)] causes relaxation of the isolated superior mesenteric vein, a splanchnic blood vessel, through activation of th |
| January 01, 2016 | In vivo MR-angiography for the assessment of aortic aneurysms in an experimental mouse model on a clinical MRI scanner: Comparison with high-frequency ultrasound and histology | Background MR-angiography currently represents one of the clinical reference-standards for the assessment of aortic-dimensions. |
| January 01, 2016 | Deletion of the NR4A nuclear receptor NOR1 in hematopoietic stem cells reduces inflammation but not abdominal aortic aneurysm formation | Background: The NR4A3 orphan nuclear hormone receptor, NOR1, functions as a constitutively active transcription factor to regulate inflammation, proli |
| January 01, 2016 | Pentaerythritol tetranitrate (PETN) in-vivo treatment improves oxidative stress and vascular dysfunction by suppression of endothelin-1 signaling in monocrotaline-induced pulmonary hypertension | Objective: Oxidative stress and endothelial dysfunction contribute to pulmonary arterial hypertension (PAH). |
| January 01, 2016 | Differential Effects of EGFL6 on Tumor versus Wound Angiogenesis | Angiogenesis inhibitors are important for cancer therapy, but clinically approved anti-angiogenic agents have shown only modest efficacy and can compr |
| January 01, 2016 | Obesity-induced vascular dysfunction and arterial stiffening requires endothelial cell arginase 1 | Aims Elevation of arginase activity has been linked to vascular dysfunction in diabetes and hypertension by a mechanism involving decreased nitric oxi |
| January 01, 2016 | Effects of Rotigaptide and RIC on Ischemia Reperfusion Injury in the In Vitro Rabbit Heart | Background: Remote Ischemic Preconditioning (rIPC) and the antiarrhythmic peptide analogue, Rotigaptide (ZP123), protects against myocardial ischemia- |
| January 01, 2016 | Suppression of aortic expansion and contractile recovery in a rat abdominal aortic aneurysm model by biodegradable gelatin hydrogel sheet incorporating basic fibroblast growth factor | Biodegradable gelatin hydrogel sheet (BGHS) incorporating basic fibroblast growth factor (bFGF) may inhibit the progression of abdominal aortic aneu |

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| January 01, 2016 | Cortistatin attenuates angiotensin II-induced abdominal aortic aneurysm through inactivation of the ERK1/2 signaling pathways | Abdominal aortic aneurysm (AAA) is a fatal disease that is associated with chronic inflammation in the vessel wall. |
| January 01, 2016 | Dietary potassium regulates vascular calcification and arterial stiffness | Vascular calcification is a risk factor that predicts adverse cardiovascular complications of several diseases including atherosclerosis. |
| January 01, 2016 | Characterization of age-related penile microvascular hemodynamic impairment using laser speckle contrast imaging: Possible role of increased fibrogenesis | Current technology for penile hemodynamic evaluations in small animals is invasive and has limitations. |
| January 01, 2016 | Loss of vascular smooth muscle cell autophagy exacerbates angiotensin II-associated aortic remodeling | Objective: The pathophysiologic processes of abdominal aortic aneurysms (AAAs) and atherosclerosis often intersect. |
| January 01, 2016 | Aortic microcalcification is associated with elastin fragmentation in Marfan syndrome | Marfan syndrome (MFS) is a connective tissue disorder in which aortic rupture is the major cause of death. |
| January 01, 2016 | Molecularly Engineered Theranostic Nanoparticles for Thrombosed Vessels: H₂O₂-Activatable Contrast-Enhanced Photoacoustic Imaging and Antithrombotic Therapy | A thrombus (blood clot), composed mainly of activated platelets and fibrin, obstructs arteries or veins, leading to various life-threatening diseases. |
| January 01, 2016 | Computer-Aided Evaluation of Blood Vessel Geometry From Acoustic Images | A method for computer-aided assessment of blood vessel geometries based on shape-fitting algorithms from metric vision was evaluated. |
| January 01, 2016 | Moderately Elevated Homocysteine Does Not Contribute to Thoracic Aortic Aneurysm in Mice | Background: Moderate hyperhomocysteinemia is an attractive target for intervention because it is present in 5-7% of the population and can be reversed |
| January 01, 2016 | Fetal Alcohol Exposure Alters Blood Flow and Neurological Responses to Transient Cerebral Ischemia in Adult Mice | Background: Prenatal alcohol exposure (PAE) can result in physical and neurocognitive deficits that are collectively termed "fetal alcohol spectrum di |
| January 01, 2016 | Renal Resistive Index as a Novel Indicator for Renal Complications in High-Fat Diet-Fed Mice | Background/Aims: The renal resistive index (RI) is a novel candidate as a renal injury prognostic indicator, but it remains unclear how renal RI level |
| January 01, 2016 | Notch1 haploinsufficiency causes ascending aortic aneurysms in mice. | An ascending aortic aneurysm (AscAA) is a life-threatening disease whose molecular basis is poorly understood. |
| January 01, 2016 | Divergent coronary flow responses to uridine adenosine tetraphosphate in atherosclerotic ApoE knockout mice | Uridine adenosine tetraphosphate (Up 4 A) exerts potent relaxation in porcine coronary arteries that is reduced following myocardial infarction, suggest |
| January 01, 2016 | Possible type 1 diabetes risk prediction: Using ultrasound imaging to assess pancreas inflammation in the inducible autoimmune diabetes BBDR model | Background/Aims Studies of human cadaveric pancreas specimens indicate that pancreas inflammation plays an important role in type 1 diabetes pathogene |
| January 01, 2016 | HPW-RX40 prevents human platelet activation by attenuating cell surface protein disulfide isomerases | Protein disulfide isomerase (PDI) present at platelet surfaces has been considered to play an important role in the conformational change and activati |
| January 01, 2016 | Collagen External Scaffolds Mitigate Intimal Hyperplasia and Improve Remodeling of Vein Grafts in a Rabbit Arteriovenous Graft Model | Objectives . |

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| January 01, 2016 | Intravascular application of electrocautery in a rabbit model of abdominal aortic endarterectomy | Effective therapies for preventing perioperative complications such as thrombosis and inflammation after coronary endarterectomy (CE) are lacking. |
| January 01, 2016 | Trimethylamine-N-oxide induces vascular inflammation by activating the NLRP3 inflammasome through the SIRT3-SOD2-mtROS signaling pathway | BACKGROUND Trimethylamine-N-oxide (TMAO) has recently been identified as a novel and independent risk factor for promoting atherosclerosis through ind |
| January 01, 2016 | Non-invasive longitudinal monitoring of angiogenesis in a murine full-thickness cutaneous wound healing model using high-resolution three-dimensional ultrasound imaging | Background/Purpose: The aim of this study was to evaluate the longitudinal monitoring of angiogenesis in a murine full- thickness cutaneous wound heal |
| January 01, 2016 | Photoacoustic Imaging: A Novel Tool for Detecting Carotid Artery Thrombosis in Mice | Thrombosis is a main cause of acute cardiovascular events, and detecting thrombi in small arteries via noninvasive im- aging remains challenging. |
| January 01, 2016 | Customization of bilio-pancreatic limb length to modulate and sustain anti-diabetic effect of gastric bypass surgery | Although Roux-en-Y Gastric Bypass (RYGB) remains the most effective treatment for obesity and type 2 diabetes (T2D), many patients fail to achieve rem |
| January 01, 2016 | Angiotensin II infusion into ApoE^{-/-} mice: a model for aortic dissection rather than abdominal aortic aneurysm? | Aims Angiotensin II-infused ApoE ^{-/-} mice are a popular mouse model for preclinical aneurysm research. |
| January 01, 2016 | Eph-B4 regulates adaptive venous remodeling to improve arteriovenous fistula patency | Low rates of arteriovenous fistula (AVF) maturation prevent optimal fistula use for hemodialysis; however, the mechanism of venous remodeling in the f |
| January 01, 2016 | Expanding Acquisition and Clutter Filter Dimensions for Improved Perfusion Sensitivity | A method is explored for increasing the sensitivity of power-Doppler imaging without contrast enhancement. |
| January 01, 2016 | Original Research: Feasibility and safety of two surgical techniques for the development of an animal model of jugular vein occlusion | To date, no studies have explored the effect of abnormal cerebral venous circulation on brain disorders, whereas many studies have investigated neurod |
| January 01, 2016 | Unspliced XBP1 Confers VSMC Homeostasis and Prevents Aortic Aneurysm Formation via FoxO4 Interaction | Rationale: Although not fully understood, the phenotypic transition of vascular smooth muscle cells exhibits at the early onset of the pathology of ao |
| January 01, 2016 | Monitoring inflammation injuries in the progression of atherosclerosis with contrast enhanced ultrasound molecular imaging | PURPOSE: The upregulation of vascular cell adhesion molecule-1 (VCAM-1) on vascular endothelium plays a great role in the progression of atherosclerosi |
| January 01, 2016 | Recombinant Decorin Fusion Protein Attenuates Murine Abdominal Aortic Aneurysm Formation and Rupture | Decorin (DCN) is a small-leucine rich proteoglycan that mediates collagen fibrillogenesis, organization, and tensile strength. |
| January 01, 2016 | High-Fat, High-Sugar Diet-Induced Subendothelial Matrix Stiffening is Mitigated by Exercise | Consumption of a high-fat, high-sugar diet and sedentary lifestyle are correlated with bulk arterial stiffening. |
| December 22, 2016 | SRC-1 Regulates Blood Pressure and Aortic Stiffness in Female Mice | Framingham Heart Study suggests that dysfunction of steroid receptor coactivator-1 may be involved in the development of hypertension. |
| December 12, 2016 | The role of GRIP1 and ephrin B3 in blood pressure control and vascular smooth muscle cell contractility | Several erythropoietin-producing hepatocellular receptor B family (EPHB) and their ligands, ephrinBs (EFNBs), are involved in blood pressure regulatio |

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| December 12, 2016 | Mouse models of deep vein thrombosis | |
| December 01, 2016 | Smart Microbubble Eluting Theranostic Stent for Noninvasive Ultrasound Imaging and Prevention of Restenosis | A pH-responsive microbubble-eluting theranostic stent is developed for real-time ultrasound imaging of stent implanted blood vessels and dissolution o |
| December 01, 2016 | Maternal vascular responses to hypoxia in a rat model of intrauterine growth restriction | Maternal vascular responses to hypoxia in a rat model of intrauterine growth restriction. |
| December 01, 2016 | Serelaxin improves the pathophysiology of placental ischemia in the reduced uterine perfusion pressure rat model of preeclampsia | Preeclampsia is a hypertensive disorder of pregnancy with limited therapeutic options. |
| November 23, 2016 | Intrauterine Growth Restriction Influences Vascular Remodeling and Stiffening in the Weanling Rat More than Sex or Diet | Intrauterine growth restriction (IUGR) increases the incidence of adult cardiovascular disease (CVD). |
| November 11, 2016 | Photoacoustic Imaging for the Detection of Hypoxia in the Rat Femoral Artery and Skeletal Muscle Microcirculation | Photoacoustic (PA) imaging is an emerging technology that combines structural and functional imaging of tissues using laser and ultrasound energy. |
| November 08, 2016 | Aortic and Cardiac Structure and Function Using High-Resolution Echocardiography and Optical Coherence Tomography in a Mouse Model of Marfan Syndrome | Marfan syndrome (MFS) is an autosomal-dominant disorder of connective tissue caused by mutations in the fibrillin-1 (FBN1) gene. |
| November 07, 2016 | Functional screening of mammalian mechanosensitive genes using Drosophila RNAi library– Smarcd3/Bap60 is a mechanosensitive pro-inflammatory gene | Disturbed blood flow (d-flow) induces atherosclerosis by altering the expression of mechanosensitive genes in the arterial endothelium. |
| November 02, 2016 | in a Rat Model | Hepatic infarcts or abscesses occur after hepatic artery interruption. |
| October 14, 2016 | Angiotensin receptor blockade mediated amelioration of mucopolysaccharidosis type I cardiac and craniofacial pathology | Mucopolysaccharidosis type I (MPS IH) is a lysosomal storage disease (LSD) caused by inactivating mutations to the alpha-L-iduronidase (IDUA) gene. |
| October 14, 2016 | Smooth muscle cell-specific Tgfr1 deficiency promotes aortic aneurysm formation by stimulating multiple signaling events | Transforming growth factor (TGF)- β signaling disorder has emerged as a common molecular signature for aortic aneurysm development. |
| October 05, 2016 | Innate Effector-Memory T Cell Activation Regulates Post-Thrombotic Vein Wall Inflammation and Thrombus Resolution | Rationale: Immune cells play an important role during the generation and resolution of thrombosis. |
| October 05, 2016 | Endothelial-like cells differentiated from mesenchymal stem cells attenuate neointimal hyperplasia after vascular injury | The present study investigated the contribution of bone marrow-derived mesenchymal stem cells (BM-MSCs) to neointimal formation, and whether endotheli |
| October 04, 2016 | Asymmetric pulsation of rat carotid artery bifurcation in three-dimension observed by ultrasound imaging | Abstract The arterial structure cyclically fluctuates in three-dimensions (3-D) caused by pulsatile blood flow. |
| October 01, 2016 | Toll-like receptor 4 mutation suppresses hyperhomocysteinemia-induced hypertension | Hyperhomocysteinemia (HHcy) has been observed to promote hypertension, but the mechanisms are unclear. |
| September 13, 2016 | Hemodynamic Influence on Smooth Muscle Cell Kinetics and Phenotype During Early Vein Graft Adaptation | Pathologic vascular adaptation following local injury is the primary driver for accelerated intimal hyperplasia and an occlusive phenotype. |

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| September 13, 2016 | Matrix metalloproteinase inhibitor, doxycycline and progression of calcific aortic valve disease in hyperlipidemic mice | Calcific aortic valve disease (CAVD) is the most common cause of aortic stenosis. Currently, there is no non-invasive medical therapy for CAVD. |
| September 01, 2016 | Cardiovascular health effects of oral and pulmonary exposure to multi-walled carbon nanotubes in ApoE-deficient mice | Exposure to high aspect ratio nanomaterials, such as multi-walled carbon nanotubes (MWCNTs) may be associated with increased risk of atherosclerosis, |
| September 01, 2016 | Defective Connective Tissue Remodeling in Smad3 Mice Leads to Accelerated Aneurysmal Growth through Disturbed Downstream TGF-β Signaling | Aneurysm-osteoarthritis syndrome characterized by unpredictable aortic aneurysm formation, is caused by SMAD3 mutations. |
| September 01, 2016 | Visualization of haemophilic arthropathy in F8 $-/-$ rats by ultrasonography and micro-computed tomography | A major complication of haemophilia is haemophilic arthropathy (HA), a debilitating disorder with an incompletely defined pathobiology. |
| June 01, 2016 | Resveratrol Decreases TXNIP mRNA and Protein Nuclear Expressions With an Arterial Function Improvement in Old Mice | Aging leads to a high prevalence of glucose intolerance and cardiovascular diseases, with oxidative stress playing a potential role. |
| February 01, 2016 | Assessment of Venous Thrombosis in Animal Models | Deep vein thrombosis and common complications, including pulmonary embolism and post-thrombotic syndrome, represent a major source of morbidity and mo |
| January 01, 2015 | Smooth muscle FGF/TGFbeta cross talk regulates atherosclerosis progression | The conversion of vascular smooth muscle cells (SMCs) from contractile to proliferative phenotype is thought to play an important role in atherosclero |
| January 01, 2015 | Re-assessing the enhanced permeability and retention effect in peripheral arterial disease using radiolabeled long circulating nanoparticles | Abstract As peripheral arterial disease (PAD) results in muscle ischemia and neovascularization, it has been claimed that nanoparticles can passively |
| January 01, 2015 | Partial Portal Vein Arterialization Attenuates Acute Bile Duct Injury Induced by Hepatic Dearterialization in a Rat Model | Hepatic infarcts or abscesses occur after hepatic artery interruption. |
| January 01, 2015 | Influence of shear stress magnitude and direction on atherosclerotic plaque composition | The precise flow characteristics that promote different atherosclerotic plaque types remain unclear. |
| January 01, 2015 | Ascending Aortic Aneurysm in Angiotensin II-Infused Mice: Formation, Progression, and the Role of Focal Dissections. | OBJECTIVE To understand the anatomy and physiology of ascending aortic aneurysms in angiotensin II-infused ApoE $(-/-)$ mice. |
| January 01, 2015 | Accelerated Blood Clearance Phenomenon Reduces the Passive Targeting of PEGylated Nanoparticles in Peripheral Arterial Disease | Peripheral arterial disease (PAD) is a leading global health concern. |
| January 01, 2015 | Fetal and Neonatal Stem Cells Early Intravenous Delivery of Human Brain Stromal Cells Modulates Systemic Inflammation and Leads to Vasoprotection in Traumatic Spinal Cord Injury | Spinal cord injury (SCI) is a life-threatening condition with multifaceted complications and limited treatment options. |
| January 01, 2015 | Comparison of Arterial Input Function Models for Small-Animal Ultrasound Perfusion Imaging | Background, Motivation and Objective Bolus & burst (B&B) is a method for quantitative ultrasound perfusion analysis combining bolus tracking and burst |

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| September 01, 2015 | Influence of physical activity and gender on arterial function in type 2 diabetes, normal and impaired glucose tolerance | To determine whether Nordic walking improves cardiovascular function in middle-aged women and men, we included 121 with normal glucose tolerance, 33 w |
| June 01, 2015 | The innate immune system contributes to tissue-engineered vascular graft performance | The first clinical trial of tissue-engineered vascular grafts (TEVGs) identified stenosis as the primary cause of graft failure. |
| April 02, 2015 | Noninvasive Molecular Ultrasound Monitoring of Vessel Healing After Intravascular Surgical Procedures in a Preclinical Setup. | OBJECTIVE: Cardiovascular interventions induce damage to the vessel wall making antithrombotic therapy inevitable until complete endothelial recovery. |
| April 01, 2015 | Photoacoustic Imaging of Vascular Hemodynamics: Validation with Blood Oxygenation Level-Dependent MR Imaging | Purpose To noninvasively assess vascular hemodynamics with photoacoustic imaging (PAI) and blood oxygenation level-dependent (BOLD) magnetic resonance |
| January 01, 2015 | Prostaglandin E synthase is upregulated by Gas6 during cancer-induced venous thrombosis. | Venous thromboembolism (VTE) is a common complication of cancer. |
| January 01, 2015 | Axl modulates immune activation of smooth muscle cells in vein graft remodeling. | The pathophysiological mechanisms of the immune activation of smooth muscle cells are not well understood. |
| January 01, 2015 | Rip2 modifies VEGF-induced signalling and vascular permeability in myocardial ischaemia | Aims In myocardial ischaemia, vascular endothelial growth factor (VEGF) induces permeability by activating a signalling path- way that includes VEGF r |
| January 01, 2015 | Multimodality and Molecular Imaging of Matrix Metalloproteinase Activation in Calcific Aortic Valve Disease | Calcific aortic valve disease (CAVD) is the most common cause of aortic stenosis. |
| November 01, 2014 | Acute reductions in mechanical wall strain precede the formation of intimal hyperplasia in a murine model of arterial occlusive disease | OBJECTIVE: Intimal hyperplasia (IH) continues to plague the durability of vascular interventions. |
| May 01, 2014 | Aortic valve sclerosis in mice deficient in endothelial nitric oxide synthase | Risk factors for fibrocal- cific aortic valve disease (FAVD) are associated with systemic decreases in bioavailability of endothelium-derived nitric |
| April 15, 2014 | Exercise performance and peripheral vascular insufficiency improve with AMPK activation in high-fat diet-fed mice | Intermittent claudication is a form of exercise intolerance characterized by muscle pain during walking in patients with peripheral artery disease (PA |
| January 01, 2014 | Age-related vascular gene expression profiling in mice | Increasing age involves a number of detrimental changes in the cardiovascular system and particularly on the large arteries. |
| January 01, 2014 | Monitoring and staging abdominal aortic aneurysm disease with pulse wave imaging. | The abdominal aortic aneurysm (AAA) is a silent and often deadly vascular disease caused by the localized weakening of the arterial wall. |
| November 01, 2013 | Development and optimization of near-IR contrast agents for immune cell tracking | Gold nanorods (NRs) are attractive for in vivo imaging due to their high optical cross-sections and tunable absorbance. |
| November 01, 2013 | Rhodamine-Loaded Intercellular Adhesion Molecule-1-targeted Microbubbles for Dual-Modality Imaging Under Controlled Shear Stresses | BACKGROUND: The ability to image incipient atherosclerosis is based on the early events taking place at the endothelial level. |

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| July 15, 2013 | Glucose-stimulated insulin secretion causes an insulin-dependent nitric oxide-mediated vasodilation in the blood supply of the rat sciatic nerve | This study tested the hypothesis that acute hyperglycemia reduces sciatic nerve blood flow in Sprague-Dawley rats. |
| April 01, 2013 | Enhanced Sonographic Imaging to Diagnose Lymph Node Metastasis: Importance of Blood Vessel Volume and Density | Lymph node size is an important variable in ultrasound diagnosis of lymph node metastasis. |
| March 28, 2013 | Mitochondrial activation by inhibition of PDKII suppresses HIF1a signaling and angiogenesis in cancer | Most solid tumors are characterized by a metabolic shift from glucose oxidation to glycolysis, in part due to actively suppressed mitochondrial functi |
| January 01, 2013 | Injection of Vessel-Derived Stem Cells Prevents Dilated Cardiomyopathy and Promotes Angiogenesis and Endogenous Cardiac Stem Cell Proliferation in mdx/utrn-/- but Not Aged mdx Mouse Models for Duchenne Muscular Dystrophy | Duchenne muscular dystrophy (DMD) is the most common form of muscular dystrophy. |
| January 01, 2013 | Molecular imaging of inflammation and platelet adhesion in advanced atherosclerosis effects of antioxidant therapy with NADPH oxidase inhibition. | BACKGROUND: In atherosclerosis, local generation of reactive oxygen species amplifies the inflammatory response and contributes to plaque vulnerabilit |
| January 01, 2013 | High and low frequency subharmonic imaging of angiogenesis in a murine breast cancer model | This project compared quantifiable measures of tumor vascularity obtained from contrast-enhanced high frequency (HF) and low frequency (LF) subharmoni |
| December 01, 2012 | Inhibition of Notch1 signaling reduces abdominal aortic aneurysm in mice by attenuating macrophage-mediated inflammation. | OBJECTIVE: Activation of inflammatory pathways plays a critical role in the development of abdominal aortic aneurysms (AAA). |
| November 01, 2012 | The Vascular Disrupting Agent STA-9584 Exhibits Potent Antitumor Activity by Selectively Targeting Microvasculature at Both the Center and Periphery of Tumors | Vascular disrupting agents (VDAs) are an emerging class of therapeutics targeting the existing vascular network of solid tumors. |
| September 01, 2012 | Y1R control of sciatic nerve blood flow in the Wistar Kyoto rat. | We hypothesized that neuropeptide Y (NPY) exerts vasoconstrictor properties in sciatic nerve blood supply by a Y1 receptor (Y1R) mechanism. |
| August 01, 2012 | Murine ultrasound imaging for circumferential strain analyses in the angiotensin II abdominal aortic aneurysm model | OBJECTIVE: The underlying causes of abdominal aortic aneurysms (AAAs) remain obscure, although research tools such as the angiotensin II (Ang II) apol |
| July 06, 2012 | Enhanced angiogenic and cardiomyocyte differentiation capacity of epigenetically reprogrammed mouse and human endothelial progenitor cells augments their efficacy for ischemic myocardial repair. | RATIONALE: Although bone marrow endothelial progenitor cell (EPC)-based therapies improve the symptoms in patients with ischemic heart disease, their |
| June 26, 2012 | Novel Single-Chain Antibody-Targeted Microbubbles for Molecular Ultrasound Imaging of Thrombosis: Validation of a Unique Noninvasive Method for Rapid and Sensitive Detection of Thrombi and Monitoring of Success or Failure of Thrombolysis in Mice | BACKGROUND: Molecular imaging is a fast emerging technology allowing noninvasive detection of vascular pathologies. |
| April 03, 2012 | Endothelial expression of hypoxia-inducible factor 1 protects the murine heart and aorta from pressure overload by suppression of TGF-β signaling. | Chronic systemic hypertension causes cardiac pressure overload leading to increased myocardial O(2) consumption. |
| March 01, 2012 | Low-dose metronomic oral dosing of a prodrug of gemcitabine (LY2334737) causes antitumor effects in the absence of inhibition of systemic vasculogenesis. | Metronomic chemotherapy refers to the close, regular administration of conventional chemotherapy drugs at relatively low, minimally toxic doses, with |

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| February 21, 2012 | Gene Inactivation of Proprotein Convertase Subtilisin/Kexin Type 9 Reduces Atherosclerosis in Mice | BACKGROUND: The proprotein convertase subtilisin/kexin type 9 (PCSK9) promotes independently of its enzymatic activity the degradation of the low-dens |
| February 01, 2012 | Non- invasive in vivo analysis of a murine aortic graft using high resolution ultrasound microimaging. | INTRODUCTION: As yet, murine aortic grafts have merely been monitored histopathologically. |
| January 01, 2011 | Intravascular photoacoustic imaging of lipid in atherosclerotic plaques in the presence of luminal blood | Intravascular photoacoustic (IVPA) imaging can characterize atherosclerotic plaque composition on the basis of the optical absorption contrast between |
| December 23, 2011 | Molecular Imaging of Vasa Vasorum Neovascularization via DEspR-targeted Contrast-enhanced Ultrasound Micro-imaging in Transgenic Atherosclerosis Rat Model | PURPOSE: Given that carotid vasa vasorum neovascularization is associated with increased risk for stroke and cardiac events, the present in vivo study |
| December 15, 2011 | Bioengineered human vascular networks transplanted into secondary mice reconnect with the host vasculature and re-establish perfusion | The ability to form anastomoses with the host circulation is essential for vascular networks incorporated within cell-seeded bioengineered tissues. |
| December 06, 2011 | Imaging guided trials of the angiogenesis inhibitor sunitinib in mouse models predict efficacy in pancreatic neuroendocrine but not ductal carcinoma. | Preclinical trials in mice represent a critical step in the evaluation of experimental therapeutics. |
| December 01, 2011 | A critical role for macrophages in neovessel formation and the development of stenosis in tissue-engineered vascular grafts | The primary graft-related complication during the first clinical trial evaluating the use of tissue-engineered vascular grafts (TEVGs) was stenosis. |
| November 15, 2011 | Volumetric and Angiogenic Evaluation of Antitumor Effects with Acoustic Liposome and High-Frequency Ultrasound | Acoustic liposomes (AL) have their inherent echogenicity and can add functionality in serving as drug carriers with tissue specificity. |
| October 11, 2011 | Tissue-intrinsic dysfunction of circadian clock confers transplant arteriosclerosis | The suprachiasmatic nucleus of the brain is the circadian center, relaying rhythmic environmental and behavioral information to peripheral tissues to |
| October 01, 2011 | Regional and systemic hemodynamic responses following the creation of a murine arteriovenous fistula | The study of hemodynamic alterations following the creation of an arteriovenous fistula (AVF) is relevant to vascular adaptive responses and hemodialy |
| September 08, 2011 | Transcriptional profiling and network analysis of the murine angiotensin II-induced abdominal aortic aneurysm. | We sought to characterize temporal gene expression changes in the murine angiotensin II (ANG II)-ApoE ^{-/-} model of abdominal aortic aneurysm (AAA). |
| July 01, 2011 | Longitudinal common carotid artery wall motion is associated with plaque burden in man and mouse | OBJECTIVE: Velocity vector imaging can be used to assess longitudinal common carotid artery (CCA) wall movement (tLoD) in man. |
| May 27, 2011 | Calcific aortic valve stenosis: methods, models, and mechanisms. | Calcific aortic valve stenosis (CAVS) is a major health problem facing aging societies. |
| March 01, 2011 | HIF-1-dependent stromal adaptation to ischemia mediates in vivo tumor radiation resistance. | PURPOSE: Hypoxia-inducible factor 1 (HIF-1) promotes cancer cell survival and tumor progression. |
| February 01, 2011 | Influences of aortic motion and curvature on vessel expansion in murine experimental aneurysms. | OBJECTIVE: To quantitatively compare aortic curvature and motion with resulting aneurysm location, direction of expansion, and pathophysiological feat |

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| January 01, 2010 | In vivo bioimaging as a novel strategy to detect doxorubicin-induced damage to gonadal blood vessels. | INTRODUCTION: Chemotherapy may induce deleterious effects in normal tissues, leading to organ damage. |
| January 01, 2010 | Micro-ultrasound for preclinical imaging | Over the past decade, non-invasive preclinical imaging has emerged as an important tool to facilitate biomedical discovery. |
| January 01, 2010 | Micro-Ultrasonographic Imaging of Atherosclerotic Progression | We studied prospectively whether atherosclerotic progression in apolipoprotein-E knock- out mice could be noninvasively and accurately measured by use |
| November 15, 2010 | A Critical Function of Th17 Proinflammatory Cells in the Development of Atherosclerotic Plaque in Mice | Considerable evidence supports that the CD4(+) T cell-mediated immune response contributes to the development of atherosclerotic plaque. |
| June 01, 2010 | Aortic regurgitation dramatically alters the distribution of atherosclerotic lesions and enhances atherogenesis in mice. | OBJECTIVE: Hemodynamics plays a critical role in atherogenesis, but the association between flow pattern and preferential localization of lesion is no |
| May 01, 2010 | Torcetrapib produces endothelial dysfunction independent of cholesteryl ester transfer protein inhibition. | OBJECTIVE: Torcetrapib, a prototype cholesteryl ester transfer protein (CETP) inhibitor with potential for decreasing atherosclerotic disease, increas |
| January 01, 2009 | Antiangiogenic Cancer Therapy : Monitoring with Molecular US and a Clinically Translatable Contrast Purpose : Methods : Results : | Purpose: Materials and Methods: To develop and test human kinase insert domain receptor (KDR)-targeted microbubbles (MBs) (MB KDR) for imaging KDR at |
| October 01, 2009 | Partial carotid ligation is a model of acutely induced disturbed flow, leading to rapid endothelial dysfunction and atherosclerosis. | Atherosclerosis is closely associated with disturbed flow characterized by low and oscillatory shear stress, but studies directly linking disturbed fl |
| September 01, 2008 | Dual-targeted Contrast Agent for US Assessment of Tumor Angiogenesis in Vivo | Purpose: To develop and validate a dual-targeted ultrasound imaging agent that attaches to both vascular endothelial growth factor receptor-2 (VEGFR2) |
| March 01, 2008 | Micro-ultrasound imaging assessment of carotid plaque characteristics in apolipoprotein-E knockout mice. | This study was aimed to test the hypothesis that noninvasive assessment of carotid plaques can be achieved by high-resolution micro-ultrasound imaging |
| February 01, 2008 | In vivo measurement of flow-mediated vasodilation in living rats using high-resolution ultrasound. | In humans, endothelial vasodilator function serves as a surrogate marker for cardiovascular health and is measured as changes in conduit artery diamet |
| January 01, 2008 | High-Resolution Ultrasound Perfusion Imaging of Therapeutic Angiogenesis | OBJECTIVES: The purpose of this study was to test the feasibility of contrast pulse sequence (CPS) ultrasound imaging for high-resolution perfusion im |
| January 01, 2008 | Targeted Microbubbles for Imaging Tumor Angiogenesis: assessment of whole body biodistribution with dynamic micro-PET in mice. | Purpose: Materials and Methods: Results: Conclusion: To evaluate in vivo whole-body biodistribution of micro- bubbles (MBs) targeted to tumor angiogen |
| December 15, 2007 | Vitamin E analogues inhibit angiogenesis by selective induction of apoptosis in proliferating endothelial cells: the role of oxidative stress. | "Mitocans" from the vitamin E group of selective anticancer drugs, alpha-tocopheryl succinate (alpha-TOS) and its ether analogue alpha-TEA, triggered |

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| August 01, 2007 | Detecting vascular changes in tumour xenografts using micro-ultrasound and micro-ct following treatment with VEGFR-2 blocking antibodies. | Blockade of vascular endothelial growth factor (VEGF) binding to its receptors on endothelial cells has been shown preclinically to induce tumour grow |
| February 01, 2007 | Non-invasive real-time imaging of atherosclerosis in mice using ultrasound biomicroscopy. | There are increasing needs to develop imaging techniques to study in vivo vascular morphology and function in various mouse models of atherosclerosis. |
| January 01, 2007 | Molecular Imaging of Vascular Endothelial Growth Factor Receptor 2 Expression using targeted contrast enhanced High frequency ultrasonography | The aim of our study was to investigate the use of targeted con- trast-enhanced high-frequency ultrasonography for molecular imaging of vascular endot |
| January 01, 2007 | Ex vivo Characterization of Atherosclerosis using Intravascular Photoacoustic Imaging. | The imaging of plaque composition represents one of the important steps in the interventional management of atherosclerosis. |
| May 26, 2006 | Developmental changes in hemodynamics of uterine artery, utero- and umbilicoplacental, and vitelline circulations in mouse throughout gestation | In human pregnancy, abnormal placental hemodynamics likely contribute to the etiology of early-onset preeclampsia and fetal intrauterine growth restri |
| July 01, 2005 | Quantitation of hemodynamic function during developmental vascular regression in the mouse eye. | PURPOSE: Ultrasound biomicroscopy (UBM) utilizes frequencies higher than conventional diagnostic ultrasound and can noninvasively provide anatomic and |