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| 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, 2018 | Placenta-specific drug delivery by trophoblast-targeted nanoparticles in mice | Rationale: The availability of therapeutics to treat pregnancy complications is severely lacking, mainly due to the risk of harm to the fetus. |
| October 18, 2021 | Highly efficient manipulation of nervous system gene expression with NEPTUNE | Summary Genetic loss and gain of function in mice have typically been studied by using knockout or knockin mice that take months to years to generate. |
| August 24, 2021 | Normalization of wall shear stress as a physiological mechanism for regulating maternal uterine artery expansive remodeling during pregnancy | Outward remodeling of the maternal uterine circulation during pregnancy is essential for normal uteroplacental perfusion and pregnancy outcome. |
| August 09, 2021 | Interferon γ neutralization reduces blood pressure, uterine artery resistance index, and placental oxidative stress in placental ischemic rats | Preeclampsia (PE) is characterized by maternal hypertension, intrauterine growth restriction, and increased cytolytic natural killer cells (cNKs), whi |
| July 07, 2021 | Interpretation of wave reflections in the umbilical arterial segment of the fetoplacental circulation: computational modeling of the fetoplacental arterial tree | Placental vascular abnormalities are associated with a host of pregnancy complications including placenta mediated fetal growth restriction (FGR). |
| June 25, 2021 | Enhanced antioxidant capacity prevents epitranscriptomic and cardiac alterations in adult offspring gestationally-exposed to ENM | Maternal engineered nanomaterial (ENM) exposure during gestation has been associated with negative long-term effects on cardiovascular health in proge |
| June 25, 2021 | Dietary protein source contributes to the risk of developing maternal syndrome in the Dahl salt-sensitive rat | Preeclampsia (PE) is a disorder of pregnancy, which is categorized by hypertension and proteinuria or signs of end-organ damage. |
| June 25, 2021 | The effect of xenon on fetal neurodevelopment following maternal sevoflurane anesthesia and laparotomy in rabbits | Background: There is concern that maternal anesthesia during pregnancy impairs brain development of the human fetus. |
| June 09, 2021 | Repeated mutation of a developmental enhancer contributed to human thermoregulatory evolution | Humans sweat to cool their bodies and have by far the highest eccrine sweat gland density among primates. |
| June 09, 2021 | Is My Mouse Pregnant? High-Frequency Ultrasound Assessment | The mouse is the mammalian animal model of choice for many human diseases and biological processes. |
| June 04, 2021 | Progesterone receptor isoform B regulates the OxtR-Plcl2-Trpc3 pathway to suppress uterine contractility | Uterine contractile dysfunction leads to pregnancy complications such as preterm birth and labor dystocia. |
| April 01, 2021 | Chronic hypertension and pregnancy outcomes: Systematic review and meta-analysis | Objective: To provide an accurate assessment of complications of pregnancy in women with chronic hypertension, including comparison with population pr |
| March 01, 2021 | Echocardiographic assessment of fetal cardiac function in the uterine artery ligation rat model of IUGR | Background: Intrauterine growth restriction (IUGR) leads to cardiac dysfunction and adverse remodeling of the fetal heart, as well as a higher risk of |
| March 01, 2021 | Adverse maternal and fetal outcomes in a novel experimental model of pregnancy after recovery from renal ischemia-reperfusion injury | Background Recent clinical studies report that women with a history of AKI have an increased incidence of maternal and fetal adverse outcomes during p |
| March 01, 2021 | Metabolomic differences in blastocoel and uterine fluids collected in vivo by ultrasound biomicroscopy on rabbit embryos† | The success of embryo development and implantation depends in part on the environment in which the embryo evolves. |

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| January 14, 2021 | Cystathionine γ-lyase promotes estrogen-stimulated uterine artery blood flow via glutathione homeostasis | During pregnancy, estrogen (E2) stimulates uterine artery blood flow (UBF) by enhancing nitric oxide (NO)-dependent vasodilation. |
| January 14, 2021 | Ultrahigh-Frequency Echocardiography of Autonomic Devoid Phox2B Homozygous Embryos Does Not Reveal a Significant Cardiac Phenotype before Embryo Death | In vivo micro-imaging of mice is useful in studying the genetic basis of cardiac development in mutant embryos. |
| January 04, 2021 | Macrophage Immune Memory Controls Endometriosis in Mice and Humans | Endometriosis is a frequent, chronic, inflammatory gynecological disease characterized by the presence of ectopic endometrial tissue causing pain and |
| January 04, 2021 | Early Gestational Exposure to Inhaled Ozone Impairs Maternal Uterine Artery and Cardiac Function | Exposure to air pollutants such as ozone (O3) is associated with adverse pregnancy outcomes, including higher incidence of gestational hypertension, p |
| January 04, 2021 | Maternal regulation of inflammatory cues is required for induction of preterm birth | Infection-driven inflammation in pregnancy is a major cause of spontaneous preterm birth (PTB). |
| January 04, 2021 | AT1-receptor autoantibody exposure in utero contributes to cardiac dysfunction and increased glycolysis in fetal mice | Exposure to adverse factors in utero may lead to adaptive changes in cardiac structure and metabolism, which increases the risk of chronic cardiovascular |
| November 03, 2020 | Differential physiological role of BIN1 isoforms in skeletal muscle development, function and regeneration | Skeletal muscle development and regeneration are tightly regulated processes. |
| August 10, 2020 | AMP-activated protein kinase activator AICAR attenuates hypoxia-induced murine fetal growth restriction in part by improving uterine artery blood flow | Key points: Pregnancy at high altitude is associated with a greater incidence of fetal growth restriction due, in part, to lesser uterine artery blood |
| March 01, 2020 | Embryonic Barcoding of Equipotent Mammary Progenitors Functionally Identifies Breast Cancer Drivers | Identification of clinically relevant drivers of breast cancers in intact mammary epithelium is critical for understanding tumorigenesis yet has prove |
| March 01, 2020 | Maternal administration of tadalafil improves fetal ventricular systolic function in a Hey2 knockout mouse model of fetal heart failure | Background: There is no established transplacental treatment for heart failure (HF) in utero, and no animal models or experimental systems of fetal HF |
| 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 | Exercise-induced 3'-sialyllactose in breast milk is a critical mediator to improve metabolic health and cardiac function in mouse offspring | Poor maternal environments, such as under- or overnutrition, can increase the risk for the development of obesity, type 2 diabetes and cardiovascular |
| 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 | The alarmin interleukin-1α causes preterm birth through the NLRP3 inflammasome | Sterile intra-amniotic inflammation is a clinical condition frequently observed in women with preterm labor and birth, the leading cause of neonatal m |
| January 01, 2020 | Microenvironment stiffness requires decellularized cardiac extracellular matrix to promote heart regeneration in the neonatal mouse heart | The transient period of regeneration potential in the postnatal heart suggests molecular changes with maturation influence the cardiac response to dam |

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| January 01, 2020 | Cell Fate Potential of NG2 Progenitors | Determining the origin of different glial subtypes is crucial to understand glial heterogeneity, and to enhance our knowledge of glial and progenitor |
| January 01, 2020 | Mutation of LRP1 in cardiac neural crest cells causes congenital heart defects by perturbing outflow lengthening | The recent recovery of mutations in vesicular trafficking genes causing congenital heart disease (CHD) revealed an unexpected role for the endocytic p |
| 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 | Multipotency of mouse trophoblast stem cells | Background: In a number of disease processes, the body is unable to repair injured tissue, promoting the need to develop strategies for tissue repair |
| January 01, 2020 | Speckle Tracking Echocardiography: New Ways of Translational Approaches in Preeclampsia to Detect Cardiovascular Dysfunction | Several studies have shown that women with a preeclamptic pregnancy exhibit an increased risk of cardiovascular disease. |
| January 01, 2020 | Electrocardiogram-gated KiloHertz Visualisation (EKV) Ultrasound Allows Assessment of Neonatal Cardiac Structural and Functional Maturation and Longitudinal Evaluation of Regeneration After Injury | The small size and high heart rate of the neonatal mouse heart makes structural and functional characterisation particularly challenging. |
| 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 preecla |
| 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 | 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 | 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 | Cardiac, renal and uterine hemodynamics changes throughout pregnancy in rats with a prolonged high fat diet from an early age | OBJECTIVE: To examine whether the cardiac, renal and uterine physiological hemodynamic changes during gestation are altered in rats with an early and |
| 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. |
| September 01, 2019 | Novel insights into the genetic landscape of congenital heart disease with systems genetics | We recently conducted a large-scale mouse mutagenesis screen and uncovered a central role for cilia in the pathogenesis of congenital heart disease (C |
| September 01, 2019 | Biaxial biomechanical properties of the nonpregnant murine cervix and uterus | From a biomechanical perspective, female reproductive health is an understudied area of research. |
| June 01, 2019 | Exposure to systemic and intrauterine inflammation leads to decreased pup survival via different placental mechanisms | Problem: Exposure to systemic maternal inflammation (i.e., maternal sepsis, influenza, human immunodeficiency virus, or pyelonephritis) and intrauteri |

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| January 12, 2019 | Ozone exposure during implantation increases serum bioactivity in HTR-8/SVneo trophoblasts | Implantation is a sensitive window in reproductive development during which disruptions may increase the risk of adverse pregnancy outcomes including |
| January 11, 2019 | Placental vascular abnormalities in the mouse alters umbilical artery wave reflections | Current methods to detect placental vascular pathologies that monitor Doppler ultrasound changes in umbilical artery (UA) pulsatility have only modera |
| January 01, 2019 | Longitudinal characterization of local perfusion of the rat placenta using contrast-enhanced ultrasound imaging | The placenta performs many physiological functions critical for development. |
| January 01, 2019 | β3 Adrenergic Activation Improves Maternal and Offspring Perinatal Outcomes in Diet Induced Prepregnancy Obesity in Mice | Objective: Prepregnancy obesity is an epidemic disorder that seriously threatens both maternal and offspring health. |
| January 01, 2019 | Pregnancy-Associated Cardiac Hypertrophy in Corin-Deficient Mice: Observations in a Transgenic Model of Preeclampsia | Background: Preeclampsia increases the risk of heart disease. |
| January 01, 2019 | Effect of maternal betamethasone administration on fetoplacental vascular resistance in the mouse† | Antenatal corticosteroids are often administered to women at risk of preterm birth to accelerate fetal lung development; however, there is evidence th |
| 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 | IL-10 producing B cells rescue mouse fetuses from inflammation-driven fetal death and are able to modulate T cell immune responses | Understanding the mechanisms leading to fetal death following maternal subclinical infections is crucial to develop new therapeutic strategies. |
| January 01, 2019 | Transient callosal projections of L4 neurons are eliminated for the acquisition of local connectivity | Interhemispheric axons of the corpus callosum (CC) facilitate the higher order functions of the cerebral cortex. |
| January 01, 2019 | Heterogeneous Cellular Contributions to Elastic Laminae Formation in Arterial Wall Development | Rationale: Elastin is an important ECM (extracellular matrix) protein in large and small arteries. |
| January 01, 2019 | Identification of novel cerebellar developmental transcriptional regulators with motif activity analysis | Background: The work of the FANTOM5 Consortium has brought forth a new level of understanding of the regulation of gene transcription and the cellular |
| 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 | Prenatal exposure to testosterone induces cardiac hypertrophy in adult female rats through enhanced Pkcδ expression in cardiac myocytes | High circulating androgen in women with polycystic ovary syndrome (PCOS) may increase the risk of cardiovascular disease in offspring. |
| December 15, 2018 | Bisphenol A exposure during early pregnancy impairs uterine spiral artery remodeling and provokes intrauterine growth restriction in mice | Endocrine disrupting chemicals are long suspected to impair reproductive health. |
| December 12, 2018 | Maternal cardiac messenger RNA expression of extracellular matrix proteins in mice during pregnancy and the postpartum period | Pregnancy creates a condition of cardiac volume overload which leads to physiological sive analysis of extracellular matrix protein eccentric hypertro |
| December 01, 2018 | Sex-specific effects of advanced maternal age on cardiovascular function in aged adult rat offspring | Pregnancy at an advanced maternal age has an increased risk of complications for both the mothers and their offspring. |
| November 06, 2018 | Sapropterin Treatment Prevents Congenital Heart Defects Induced by Pregestational Diabetes Mellitus in Mice | Background—Tetrahydrobiopterin is a cofactor of endothelial NO synthase (eNOS), which is critical to embryonic heart development. |

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| October 12, 2018 | Repurposing simvastatin as a therapy for preterm labor: evidence from preclinical models | Preterm birth (PTB), the leading cause of neonatal morbidity and mortality, urgently requires novel therapeutic agents. |
| July 31, 2018 | Comparative determination of placental perfusion by magnetic resonance imaging and contrast-enhanced ultrasound in a murine model of intrauterine growth restriction | Introduction: Exploration of placental perfusion is essential in screening for dysfunctions impairing fetal growth. |
| 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. |
| January 22, 2018 | Preclinical Ultrasound-Guided Photoacoustic Imaging of the Placenta in Normal and Pathologic Pregnancy | Placental oxygenation varies throughout pregnancy. |
| 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 | Systemic Evaluation of Vascular Dysfunction by High-Resolution Sonography in an N^x-Nitro- L -Arginine Methyl Ester Hydrochloride – Induced Mouse Model of Preeclampsia-Like Symptoms | Objectives—The purpose of this study was to evaluate vascular function, including arterial resistance and endothelial function, by high-resolution son |
| 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 | Maternal treatment with a placental-targeted antioxidant (MitoQ) impacts o ff spring cardiovascular function in a rat model of prenatal hypoxia | Intrauterine growth restriction, a common consequence of prenatal hypoxia, is a leading cause of fetal morbidity and mortality with a significant impa |
| January 01, 2018 | Endometrial regeneration using cell sheet transplantation techniques in rats facilitates successful fertilization and pregnancy | Objective: To regenerate functional endometrium tissue using “cell sheet” techniques as a regenerative medicine approach to address endometrial disord |
| January 01, 2018 | G-protein receptor kinases 2, 5 and 6 redundantly modulate Smoothed-GATA transcriptional crosstalk in fetal mouse hearts | G-protein receptor kinases (GRKs) regulate adult hearts by modulating inotropic, chronotropic and hypertrophic signaling of 7-transmembrane spanning n |
| January 01, 2018 | Trichloroethylene perturbs HNF4a expression and activity in the developing chick heart | Exposure to trichloroethylene (TCE) is linked to formation of congenital heart defects in humans and animals. |
| January 01, 2018 | Comprehensive Evaluation of the Effectiveness and Safety of Placenta-Targeted Drug Delivery Using Three Complementary Methods | No effective treatments currently exist for placenta-associated pregnancy complications, and developing strategies for the targeted delivery of drugs |
| 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 | In Vivo Evaluation of the Cardiovascular System of Mouse Embryo and Fetus Using High Frequency Ultrasound | Genetically engineered mice have been widely used for studying cardiovascular development, physiology and diseases. |
| January 01, 2018 | Intermittent hypoxia in utero damages postnatal growth and cardiovascular function in rats | PURPOSE: Obstructive sleep apnea (OSA) is common in pregnancy, and may compromise fetal and even postnatal development. |
| 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. |

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| January 01, 2018 | Lipopolysaccharide-induced maternal inflammation induces direct placental injury without alteration in placental blood flow and induces a secondary fetal intestinal injury that persists into adulthood | PROBLEM: Premature birth complicates 10%-12% of deliveries. |
| January 01, 2018 | Lung function and pulmonary artery blood flow following prenatal maternal retinoic acid and imatinib in the nitrofen model of congenital diaphragmatic hernia | Background: Lung and pulmonary vascular maldevelopment in congenital diaphragmatic hernia (CDH) results in significant morbidity and mortality. |
| January 01, 2018 | Three-dimensional visualization of extracellular matrix networks during murine development | The extracellular matrix (ECM) plays a crucial role in embryogenesis, serving both as a substrate to which cells attach and as an active regulator of |
| January 01, 2018 | Caveolin1 Identifies a Specific Subpopulation of Cerebral Cortex Callosal Projection Neurons (CPN) Including Dual Projecting Cortical Callosal/Frontal Projection Neurons (CPN/FPN) | The neocortex is composed of many distinct subtypes of neurons that must form precise subtype-specific connections to enable the cortex to perform com |
| December 21, 2017 | Uterine Artery Flow and Offspring Growth in Long-Evans Rats following Maternal Exposure to Ozone during Implantation | BACKGROUND: Epidemiological studies suggest that increased ozone exposure during gestation may compromise fetal growth. |
| December 13, 2017 | Tacrolimus in the prevention of adverse pregnancy outcomes and diabetes-associated embryopathies in obese and diabetic mice | Background: T2DM is a high-risk pregnancy with adverse fetal and maternal outcomes including repeated miscarriages and fetal malformations. |
| December 01, 2017 | Photoacoustic imaging for in vivo quantification of placental oxygenation in mice | Accurate analysis of placental and fetal oxygenation is critical during pregnancy. |
| September 01, 2017 | Mouse Oocytes Acquire Mechanisms That Permit Independent Cell Volume Regulation at the End of Oogenesis | Normal pregnancy is associated with decreased uterine vascular contraction and increased blood flow even though angiotensin II (AngII) levels are incr |
| August 03, 2017 | Viscosity and haemodynamics in a late gestation rat fetoplacental arterial network | The placenta is a transient organ which develops during pregnancy to provide haemotrophic support for healthy fetal growth and development. |
| May 22, 2017 | The complex genetics of hypoplastic left heart syndrome | Congenital heart disease (CHD) affects up to 1% of live births ¹ . |
| May 01, 2017 | Ultrasound detection of altered placental vascular morphology based on hemodynamic pulse wave reflection. | Abnormally pulsatile umbilical artery (UA) Doppler ultrasound velocity waveforms are a hallmark of severe or early onset placental-mediated intrauteri |
| February 28, 2017 | Use of high-frequency ultrasound to study the prenatal development of cranial neural tube defects and hydrocephalus in Gldc -deficient mice | OBJECTIVE We used non-invasive high frequency ultrasound (HFUS) imaging to investigate embryonic brain development in a mouse model for neural tube de |
| February 15, 2017 | Exposure to placental ischemia impairs postpartum maternal renal and cardiac function in rats | INTRODUCTION: Women with a history of preeclampsia (PE) have an increased risk to develop cardiovascular and renal diseases later in life, but the mec |
| February 02, 2017 | Stellate cells drive maturation of the entorhinal-hippocampal circuit | The neural representation of space relies on a network of entorhinal-hippocampal cell types with firing patterns tuned to different abstract features |
| February 01, 2017 | The transcription factor GATA4 promotes myocardial regeneration in neonatal mice | Heart failure is often the consequence of insufficient cardiac regeneration. |
| February 01, 2017 | Peptidomics Analysis of Transient Regeneration in the Neonatal Mouse Heart | Neonatal mouse hearts have completely regenerative capability after birth, but the ability to regenerate rapidly lost after 7 days, the mechanism has |

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| February 01, 2017 | Ultrasound-guided spectral photoacoustic imaging of hemoglobin oxygenation during development | Few technologies are capable of imaging in vivo function during development. |
| January 20, 2017 | Serelaxin treatment promotes adaptive hypertrophy but does not prevent heart failure in experimental peripartum cardiomyopathy | Aims: Peripartum cardiomyopathy (PPCM) is a systolic left ventricular dysfunction developing in the peripartum phase in previously healthy women. |
| January 20, 2017 | Postnatal resveratrol supplementation improves cardiovascular function in male and female intrauterine growth restricted offspring | Intrauterine growth restriction (IUGR) may predispose offspring to an increased susceptibility of developing cardiovascular disease (CVD) in adult life |
| January 14, 2017 | Hyaluronidase 2 Deficiency Causes Increased Mesenchymal Cells, Congenital Heart Defects, and Heart Failure CLINICAL PERSPECTIVE | BACKGROUND Hyaluronan (HA) is required for endothelial-to-mesenchymal transition and normal heart development in the mouse. |
| January 12, 2017 | Real-Time Monitoring of Placental Oxygenation during Maternal Hypoxia and Hyperoxygenation Using Photoacoustic Imaging | PURPOSE: This preclinical study aimed to evaluate placental oxygenation in pregnant rats by real-time photoacoustic (PA) imaging on different days of |
| January 03, 2017 | Three-Dimensional High-Frequency Ultrasonography for Early Detection and Characterization of Embryo Implantation Site Development in the Mouse | Ultrasonography is a powerful tool to non-invasively monitor in real time the development of the human fetus in utero. |
| January 01, 2016 | Hemodynamic Forces Sculpt Developing Heart Valves through a KLF2-WNT9B Paracrine Signaling Axis | Hemodynamic forces play an essential epigenetic role in heart valve development, but how they do so is not known. |
| January 01, 2016 | Visualizing Changes in Cdkn1c Expression Links Early-Life Adversity to Imprint Mis-regulation in Adults | Imprinted genes are regulated according to parental origin and can influence embryonic growth and metabolism and confer disease susceptibility. |
| January 01, 2016 | Gestational Stage and IFN-λ Signaling Regulate ZIKV Infection In Utero | Although Zika virus (ZIKV)-induced congenital disease occurs more frequently during early stages of pregnancy, its basis remains undefined. |
| January 01, 2016 | Phenotyping cardiac and structural birth defects in fetal and newborn mice | Mouse models are invaluable for investigating the developmental etiology and molecular pathogenesis of structural birth defects. |
| January 01, 2016 | Persistence of risk factors associated with maternal cardiovascular disease following aberrant inflammation in rat pregnancy | Introduction: Pre-eclampsia is associated with increased risk of subsequent cardiovascular and metabolic disease in the affected mothers. |
| January 01, 2016 | Monitoring health and reproductive status of olms (Proteus anguinus) by ultrasound | The olm (Proteus anguinus) is a troglomorphic, neotenic amphibian with extraordinary life expectancy and unique adaptations that deserve further investigation |
| January 01, 2016 | Gastric emptying is reduced in experimental NEC and correlates with the severity of intestinal damage | Purpose: The aim of this study is to assess gastric emptying in experimental necrotizing enterocolitis (NEC) and its diagnostic significance using non |
| January 01, 2016 | Vitamin D supplementation reduces some AT 1 -AA-induced downstream targets implicated in preeclampsia including hypertension | Autoantibodies to the ANG II type I receptor (AT1 -AA) are associated with preeclampsia (PE). |
| January 01, 2016 | A mouse model of antepartum stillbirth | Background Many stillbirths of normally formed fetuses in the third trimester could be prevented via delivery if reliable means to anticipate this out |
| January 01, 2016 | Temporally Distinct Six2-Positive Second Heart Field Progenitors Regulate Mammalian Heart Development and Disease | The embryonic process of forming a complex structure such as the heart remains poorly understood. |

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| December 19, 2016 | TRPC4α and TRPC4β Similarly Affect Neonatal Cardiomyocyte Survival during Chronic GPCR Stimulation | The Transient Receptor Potential Channel Subunit 4 (TRPC4) has been considered as a crucial Ca ²⁺ component in cardiomyocytes promoting structural and |
| December 01, 2016 | Myocardial VHL-HIF Signaling Controls an Embryonic Metabolic Switch Essential for Cardiac Maturation | SUMMARY While gene regulatory networks involved in cardio- genesis have been characterized, the role of bioener- getics remains less studied. |
| 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. |
| 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. |
| November 24, 2016 | Neonatal Diesel Exhaust Particulate Exposure Does Not Predispose Mice to Adult Cardiac Hypertrophy or Heart Failure | Background: We have previously reported that in utero and early life exposure to diesel exhaust particulates predisposes mice to adult heart failure, |
| 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 10, 2016 | Mas receptor contributes to pregnancy-induced cardiac remodeling | Previous studies have demonstrated a protective effect of the Ang-(1–7)/Mas receptor axis on pathological cardiac hypertrophy. |
| November 09, 2016 | Maternal T Regulatory Cell Depletion Impairs Embryo Implantation Which Can Be Corrected With Adoptive T Regulatory Cell Transfer | Maternal immune tolerance of fetal engraftment is critical for the establishment and maintenance of pregnancy, but the exact mechanisms permitting thi |
| November 01, 2016 | Sema6D acts downstream of bone morphogenetic protein signalling to promote atrioventricular cushion development in mice | AIMS Bone morphogenetic protein (BMP) signalling plays a key role in regulating the development of the atrioventricular (AV) septum and valves; howeve |
| October 31, 2016 | Congenital valvular defects associated with deleterious mutations in the PLD1 gene | BACKGROUND The underlying molecular aetiology of congenital heart defects is largely unknown. |
| October 19, 2016 | Neonatal cardiac dysfunction and transcriptome changes caused by the absence of Celf1 | The RNA binding protein Celf1 regulates alternative splicing in the nucleus and mRNA stability and translation in the cytoplasm. |
| August 08, 2016 | Postnatal Loss of Kindlin-2 Leads to Progressive Heart Failure CLINICAL PERSPECTIVE | BACKGROUND The striated muscle costamere, a multiprotein complex at the boundary between the sarcomere and the sarcolemma, plays an integral role in m |
| June 23, 2016 | Human Chorionic Gonadotropin Has Anti-Inflammatory Effects at the Maternal-Fetal Interface and Prevents Endotoxin-Induced Preterm Birth, but Causes Dystocia and Fetal Compromise in Mice | Human chorionic gonadotropin (hCG) is implicated in the maintenance of uterine quiescence by down-regulating myometrial gap junctions during pregnancy |
| March 24, 2016 | Transplacental sildenafil rescues lung abnormalities in the rabbit model of diaphragmatic hernia | Introduction The management of congenital diaphragmatic hernia (DH) would benefit from an antenatal medical therapy, which addresses both lung hypopla |
| March 15, 2016 | Maternal high-fat diet impairs cardiac function in offspring of diabetic pregnancy through metabolic stress and mitochondrial dysfunction | Offspring of diabetic pregnancies are at risk of cardiovascular disease at birth and throughout life, purportedly through fuel-mediated influences on |
| March 15, 2016 | GATA4 regulates Fgf16 to promote heart repair after injury | Although the mammalian heart can regenerate during the neonatal stage, this endogenous regenerative capacity is lost with age. |

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| March 01, 2016 | KMT2D regulates specific programs in heart development via histone H3 lysine 4 di-methylation | KMT2D, which encodes a histone H3K4 methyltransferase, has been implicated in human congenital heart disease in the context of Kabuki syndrome. |
| January 01, 2015 | The chromatin binding protein Smyd1 restricts adult mammalian heart growth. | All terminally differentiated organs face two challenges: maintaining their cellular identity and restricting organ size. |
| January 01, 2015 | Efficient production of cynomolgus monkeys with a toolbox of enhanced assisted reproductive technologies | The efficiency of assisted reproductive technologies (ARTs) in nonhuman primates is low due to no screening criterions for selecting sperm, oocyte, an |
| January 01, 2015 | Pravastatin ameliorates placental vascular defects, fetal growth, and cardiac function in a model of glucocorticoid excess | Fetoplacental glucocorticoid overexposure is a significant mechanism underlying fetal growth restriction and the programming of adverse health outco |
| January 01, 2015 | RGS2 squelches vascular G i/o and G q signaling to modulate myogenic tone and promote uterine blood flow | Uterine artery blood flow (UABF) is critical to maintaining uterine perfusion in nonpregnant states and for uteroplacental delivery of nutrients and o |
| January 01, 2015 | Progressive Vascular Functional and Structural Damage in a Bronchopulmonary Dysplasia Model in Preterm Rabbits Exposed to Hyperoxia | Bronchopulmonary dysplasia (BPD) is caused by preterm neonatal lung injury and results in oxygen dependency and pulmonary hypertension. |
| January 01, 2015 | Oral oestrogen reverses ovariectomy-induced morning surge hypertension in growth-restricted mice | Perinatal growth restriction (GR) is associated with heightened sympathetic tone and hypertension. |
| January 01, 2015 | Postnatal Cardiovascular Consequences in the Offspring of Pregnant Rats Exposed to Smoking and Smoking Cessation Pharmacotherapies | Approximately 20% of pregnant women smoke despite intentions to quit. |
| January 01, 2015 | Evaluation of the foetal time to death in mice after application of direct and indirect euthanasia methods | Directive 2010/63/EU on the protection of animals used for scientific purposes requires that the killing of mammal foetuses during the last third of t |
| January 01, 2015 | Effects of vitamin A deficiency in the postnatal mouse heart: role of hepatic retinoid stores | To determine whether hepatic depletion of vitamin A (VA) stores has an effect on the postnatal heart, studies were carried out with mice lacking liv |
| November 01, 2015 | In Utero Exposure to a Cardiac Teratogen Causes Reversible Deficits in Postnatal Cardiovascular Function, But Altered Adaptation to the Burden of Pregnancy | Congenital heart defects (CHD) are the most common birth anomaly and while many resolve spontaneously by 1 year of age, the lifelong burden on survivo |
| May 21, 2015 | Evaluation of utero-placental and fetal hemodynamic parameters throughout gestation in pregnant mice using high-frequency ultrasound | Throughout gestation, changes in maternal and fetal Doppler parameters in pregnant mice, similar to those obtained in human fetuses, were detected usi |
| February 04, 2015 | In Utero Intra-cardiac Tomato-lectin Injections on Mouse Embryos to Gauge Renal Blood Flow | The formation and perfusion of developing renal blood vessels (apart from glomeruli) are greatly understudied. |
| February 01, 2015 | Placental growth factor influences maternal cardiovascular adaptation to pregnancy in mice. | In healthy human pregnancies, placental growth factor (PGF) concentrations rise in maternal plasma during early gestation, peak over Weeks 26-30, then |
| January 01, 2015 | The intracellular domains of Notch1 and 2 are functionally equivalent during development and carcinogenesis | Although Notch1 and Notch2 are closely related paralogs and function through the same canonical signaling pathway, they contribute to different outcom |

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| January 01, 2015 | Compatibility of a Novel Thrombospondin-1 Analog with Fertility and Pregnancy in a Xenograft Mouse Model of Endometriosis | Endometriosis is a gynecological disease defined by the growth of endometrium outside of the uterus. |
| January 01, 2015 | Kidney adysplasia and variable hydronephrosis, a new mutation affecting the odd - Skipped related 1 gene in the mouse, causes variable defects in kidney development and hydronephrosis | Many genes, including odd-skipped related 1 (Osr1), are involved in regulation of mammalian kidney development. |
| January 01, 2015 | Uterine artery dysfunction in pregnant ACE2 knockout mice is associated with placental hypoxia and reduced umbilical blood flow velocity. | Angiotensin-converting enzyme 2 (ACE2) knockout is associated with reduced fetal weight at late gestation; however, whether uteroplacental vascular an |
| January 01, 2015 | Effects of High Intensity Interval Training on Pregnant Rats, and the Placenta, Heart and Liver of Their Fetuses | OBJECTIVE: To investigate the effects of high intensity interval training (HIIT) on the maternal heart, fetuses and placentas of pregnant rats. |
| August 16, 2014 | Assessment of flow distribution in the mouse fetal circulation at late gestation by high-frequency Doppler ultrasound | This study used high-frequency ultrasound to evaluate the flow distribution in the mouse fetal circulation at late gestation. |
| May 01, 2014 | Adverse perinatal environment contributes to altered cardiac development and function | Epidemiological observations report an association between intrauterine growth restriction (IUGR) and cardiovascular diseases. |
| January 13, 2014 | Inflammation in rat pregnancy inhibits spiral artery remodeling leading to fetal growth restriction and features of preeclampsia | Fetal growth restriction (FGR) and preeclampsia (PE) are often associated with abnormal maternal inflammation, deficient spiral artery (SA) remodeling |
| January 01, 2014 | A pictorial essay on fetal rabbit anatomy using micro-ultrasound and magnetic resonance imaging | Introduction: With this pictorial essay, we aimed to provide gestational age specific reference ranges of relevant fetal structures using micro-ultras |
| October 15, 2013 | Chronic carbon monoxide inhalation during pregnancy augments uterine artery blood flow and uteroplacental vascular growth in mice. | End-tidal breath carbon monoxide (CO) is abnormally low in women with preeclampsia (PE), while women smoking during pregnancy have shown an increase i |
| October 01, 2013 | Junctophilin-2 is necessary for T-tubule maturation during mouse heart development. | AIMS: Transverse tubules (TTs) provide the basic subcellular structures that facilitate excitation-contraction (EC) coupling, the essential process th |
| September 01, 2013 | Experimental hyperleptinemia in neonatal rats leads to selective leptin responsiveness, hypertension, and altered myocardial function. | The prevalence of obesity among pregnant women is increasing. |
| September 01, 2013 | Fetal rat hearts do not display acute cardiotoxicity in response to maternal Doxorubicin treatment. | Anthracyclines are used to treat cancers during the second and third trimester of pregnancy. |
| July 01, 2013 | Cardiomyopathy and diastolic dysfunction in the embryo and neonate of a type 1 diabetic mouse model. | OBJECTIVE: The purpose of this study was to examine the effect of maternal type 1 diabetes on the structure and function of the embryonic and neonatal |
| June 01, 2013 | Analysis of maternal and fetal cardiovascular systems during hyperglycemic pregnancy in the nonobese diabetic mouse. | Preconception or gestationally induced diabetes increases morbidities and elevates long-term cardiovascular disease risks in women and their children. |
| July 10, 2012 | Amniotic fluid inhibits Toll-like receptor 4 signaling in the fetal and neonatal intestinal epithelium | The fetal intestinal mucosa is characterized by elevated Toll-like receptor 4 (TLR4) expression, which can lead to the development of necrotizing en |
| July 01, 2012 | Effect of the anti-oxidant tempol on fetal growth in a mouse model of fetal growth restriction. | Fetal growth restriction (FGR) greatly increases the risk of perinatal morbidity and mortality and is associated with increased uterine artery resista |

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| July 01, 2012 | Estimation of mouse fetal weight by ultrasonography: application from clinic to laboratory | Ultrasonographic assessment of fetal growth to estimate fetal weight has been widely used in clinical obstetrics but not in laboratory mice. |
| July 01, 2012 | Endothelial nitric oxide synthase deficiency reduces uterine blood flow, spiral artery elongation, and placental oxygenation in pregnant mice. | Preeclampsia is associated with impaired uteroplacental adaptations during pregnancy and abnormalities in the endothelial NO synthase (eNOS)-NO pathwa |
| May 09, 2012 | Cardiac angiogenic imbalance leads to peripartum cardiomyopathy | Peripartum cardiomyopathy (PPCM) is an often fatal disease that affects pregnant women who are near delivery, and it occurs more frequently in women w |
| January 01, 2011 | ROR Beta induces barrel-like neuronal clusters in the developing neocortex | Neurons in layer IV of the rodent whisker somatosensory cortex are tangentially organized in periodic clusters called barrels, each of which is innerv |
| January 01, 2011 | Intracardial embryonic delivery of developmental modifiers in utero | Our knowledge of organ ontogeny is largely based on loss-of-function (knockout) or gain-of-function (transgenesis) approaches. |
| April 01, 2011 | Effect of gestational diabetes on maternal artery function. | Endothelial dysfunction has been observed systemically in women with gestational diabetes (GDM). |
| January 01, 2010 | Spontaneous Pregnancy Loss Mediated by Abnormal Maternal Inflammation in Rats Is Linked to Deficient Uteroplacental Perfusion | Abnormal maternal inflammation during pregnancy is associated with spontaneous pregnancy loss and intrauterine fetal growth restriction. |
| September 02, 2010 | The critical roles of platelet activation and reduced NO bioavailability in fatal pulmonary arterial hypertension in a murine hemolysis model | Pulmonary arterial hypertension (PAH) is suspected to be a strong mortality deter- minant of hemolytic disorders. |
| December 01, 2009 | Using ultrasonography to define fetal-maternal relationships: moving from humans to mice. | Ultrasound scanning is a noninvasive, accurate, and cost-effective method to create images of the female reproductive tract clinically and in research |
| July 01, 2009 | Developmental programming resulting from maternal obesity in mice: effects on myocardial ischaemia-reperfusion injury. | A comprehensive number of epidemiological and animal studies suggest that prenatal and early life events are important determinants for disorders late |
| January 01, 2009 | Hypoxia induces dilated cardiomyopathy in the chick embryo: mechanism, intervention, and long-term consequences. | BACKGROUND: Intrauterine growth restriction is associated with an increased future risk for developing cardiovascular diseases. |
| January 01, 2009 | Folate rescues lithium-, homocysteine- and Wnt3A-induced vertebrate cardiac anomalies. | Elevated plasma homocysteine (HCy), which results from folate (folic acid, FA) deficiency, and the mood-stabilizing drug lithium (Li) are both linked |
| April 01, 2008 | Regulation of maternal and fetal hemodynamics by heme oxygenase in mice. | Heme oxygenase (HMOX) regulates vascular tone and blood pressure through the production of carbon monoxide (CO), a vasodilator derived from the heme d |
| January 01, 2008 | In vivo quantification of embryonic and placental growth during gestation in mice using micro-ultrasound. | BACKGROUND: Non-invasive micro-ultrasound was evaluated as a method to quantify intrauterine growth phenotypes in mice. |
| April 01, 2007 | Initial experience with high frequency ultrasound for the newborn C57BL mouse. | The mouse has become a powerful genetic tool for studying genes involved in cardiac development and congenital heart disease. |
| 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 |

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| January 01, 2005 | Embryonic and neonatal phenotyping of genetically engineered mice. | Considerable progress has been made in adapting existing and developing new technologies to enable increasingly detailed phenotypic information to be |
| January 01, 2005 | Cardiovascular function in mice during normal pregnancy and in the absence of endothelial NO synthase | In humans, the increased cardiovascular demands of pregnancy are met by increases in cardiac output (CO), stroke volume (SV), plasma volume (PV), and |
| January 01, 2003 | Diabetic Autonomic Neuropathy | ABSTRACT—Diabetic autonomic neuropathy (DAN) is a serious and common complication of diabetes. |