November 03, 2020	Cysteine depletion induces pancreatic tumor ferroptosis in mice	Ferroptosis is a form of cell death that results from the catastrophic accumulation of lipid reactive oxygen species (ROS).
January 01, 2019	pH-Responsive Nanoprobe for In Vivo Photoacoustic Imaging of Gastric Acid	In vivo real-time monitoring gastric acid is of great importance for diagnosis and treatment of gastrointestinal diseases.
January 01, 2018	Mechanosensing by β1 integrin induces angiocrine signals for liver growth and survival	Angiocrine signals derived from endothelial cells are an important component of intercellular communication and have a key role in organ growth, regen
January 01, 2013	Quantification of Murine Pancreatic Tumors by High-Resolution Ultrasound	Ultrasonography is a powerful imaging modality that enables non-invasive, real time visualization of abdominal organs and tissues.
November 29, 2021	GM-CSF drives myelopoiesis, recruitment and polarisation of tumour-associated macrophages in cholangiocarcinoma and systemic blockade facilitates antitumour immunity	OBJECTIVE: Intrahepatic cholangiocarcinoma (iCCA) is rising in incidence, and at present, there are limited effective systemic therapies.
October 19, 2021	Clusters of Ultrasound Scattering Parameters for the Classification of Steatotic and Normal Livers	The study of ultrasound tissue interactions in fatty livers has a long history with strong clinical potential for assessing steatosis.
October 19, 2021	Hydralazine augmented ultrasound hyperthermia for the treatment of hepatocellular carcinoma	This study investigates the use of hydralazine to enhance ultrasound hyperthermia for the treatment of hepatocellular carcinoma (HCC) by minimizing fl
August 09, 2021	NIR-II Photoacoustic Reporter for Biopsy-Free and Real-Time Assessment of Wilson's Disease	Wilson's disease (WD) is a rare inherited disorder of copper metabolism with pathological copper hyperaccumulation in some vital organs.
June 21, 2021	Quantitative Functional Evaluation of Liver Fibrosis in Mice with Dynamic Contrast-enhanced Photoacoustic Imaging	Background Dynamic contrast-enhanced (DCE) photoacoustic (PA) imaging (PAI) is a novel noninvasive imaging modality that uses the differences in optic
March 25, 2021	Doppler ultrasound assessment of splanchnic perfusion and heart rate for the detection of necrotizing enterocolitis	Purpose Monitoring disease progression is crucial to improve the outcome of necrotizing enterocolitis (NEC).
March 25, 2021	Optogenetic stimulation of cholinergic fibers for the modulation of insulin and glycemia	Previous studies have demonstrated stimulation of endocrine pancreas function by vagal nerve electrical stimulation.
March 25, 2021	Photoacoustic monitoring of oxygenation changes induced by therapeutic ultrasound in murine hepatocellular carcinoma	Hepatocellular carcinoma (HCC) is a highly vascular solid tumor.
March 25, 2021	Regorafenib combined with PD1 blockade increases CD8 T-cell infiltration by inducing CXCL10 expression in hepatocellular carcinoma	Background and purpose Combining inhibitors of vascular endothelial growth factor and the programmed cell death protein 1 (PD1) pathway has shown effi
March 25, 2021	Placental growth factor promotes tumour desmoplasia and treatment resistance in intrahepatic cholangiocarcinoma	Objective: Intrahepatic cholangiocarcinoma (ICC) - a rare liver malignancy with limited therapeutic options - is characterised by aggressive progressi
March 08, 2021	Inhibition of focal adhesion kinase enhances antitumor response of radiation therapy in pancreatic cancer through CD8+ T cells	Objective: Pancreatic ductal adenocarcinoma (PDAC) is a deadly malignancy, due in large part to its resistance to conventional therapies, including ra
March 03, 2021	Adaptation of pancreatic cancer cells to nutrient deprivation is reversible and requires glutamine synthetase stabilization by mTORC1	Pancreatic ductal adenocarcinoma (PDA) is a lethal, therapy-resistant cancer that thrives in a highly desmoplastic, nutrient-deprived microenvironment

March 01, 2021	An application of multivariate data analysis to photoacoustic imaging for the spectral unmixing of gold nanorods in biological tissues	Gold nanorods (GNRs) showed to be a suitable contrast agent in photoacoustics (PA), and are able to provide a tunable absorption contrast against back
February 23, 2021	Remote ischemic preconditioning attenuates hepatic ischemia/reperfusion injury after hemorrhagic shock by increasing autophagy	Fluid resuscitation after hemorrhagic shock is a model of systemic ischemia/reperfusion injury (SI/RI), and the liver is one of the main target organs
January 18, 2021	Generation of neighbor-labeling cells to study intercellular interactions in vivo	Understanding cell–cell interactions is critical in most, if not all, research fields in biology.
January 14, 2021	A Novel Noninvasive Method for Quantitative Detection of Colonic Dysmotility Using Real-Time Ultrasonography	Introduction: Colonic motility disorders are a frequent clinical problem caused by various drugs and diseases.
January 04, 2021	Multimodal Imaging of Pancreatic Ductal Adenocarcinoma Using Multifunctional Nanoparticles as Contrast Agents	Late diagnosis and refractory behavior toward current treatment protocols make pancreatic ductal adenocarcinoma (PDAC) one of the most difficult cance
November 03, 2020	Respiratory Supercomplexes Promote Mitochondrial Efficiency and Growth in Severely Hypoxic Pancreatic Cancer	Pancreatic ductal adenocarcinoma (PDAC) is characterized by extensive fibrosis and hypovascularization, resulting in significant intratumoral hypoxia
September 09, 2020	Interrogating the immune-modulating roles of radiation therapy for a rational combination with immune-checkpoint inhibitors in treating pancreatic cancer	Background Radiation therapy (RT) has the potential to enhance the efficacy of immunotherapy, such as checkpoint inhibitors, which has dramatically al
January 01, 2020	Myo–inositol and D-Chiro–inositol oral supplementation ameliorate cardiac dysfunction and remodeling in a mouse model of diet-induced obesity	Obesity is an independent risk factor to develop cardiac functional and structural impairments.
January 01, 2020	MT1-MMP-Activated Liposomes to Improve Tumor Blood Perfusion and Drug Delivery for Enhanced Pancreatic Cancer Therapy	Promoting tumor angiogenesis effectively and specifically to resolve tumor-associated hypoperfusion holds promise for improving pancreatic cancer ther
January 01, 2020	Selective Alanine Transporter Utilization Creates a Targetable Metabolic Niche in Pancreatic Cancer	Pancreatic ductal adenocarcinoma (PDAC) evolves a complex microenvironment comprised of multiple cell types, including pancreatic stellate cells (PSC)
January 01, 2020	Carcinogenetic initiation contributed by EpCAM+ cancer cells in orthotopic HCC models of immunocompetent and athymic mice	Purpose: Overexpression of epithelial cell adhesion molecule (EpCAM) correlates with poor prognosis, therapeutic failure and early tumor recurrence in
June 01, 2019	A near-infrared turn-on probe for in vivo chemoselective photoacoustic detection of fluoride ion	The detection of fluoride ion (F –) in living subjects is of value for healthcare and environmental fields.
April 01, 2019	Biofabrication of a vascularized islet organ for type 1 diabetes	Islet transplantation is superior to extrinsic insulin supplementation in the treating severe Type 1 diabetes.
January 01, 2019	Effect of increasing liver blood flow on nanodrug clearance by the liver for enhanced antitumor therapy	The clinical applications of particulate drug delivery systems have demonstrated limited treatment out- comes, which is largely attributable to the el
January 01, 2019	Erythropoietin and long-acting erythropoiesis stimulating agent ameliorate non-alcoholic fatty liver disease by increasing lipolysis and decreasing lipogenesis via EPOR/STAT pathway	Erythropoietin (EPO) has been reported to exert a beneficial effect on glucose metabolism in obesity.
January 01, 2019	Cytosolic 5′-nucleotidase 1A is overexpressed in pancreatic cancer and mediates gemcitabine resistance by reducing intracellular gemcitabine metabolites	Background: Cytosolic 5′-nucleotidase 1A (NT5C1A) dephosphorylates non-cyclic nucleoside monophosphates to produce nucleosides and inorganic phosphate

January 01, 2019	Radioembolization of Hepatocellular Carcinoma with Built-In Dosimetry: First in vivo Results with Uniformly-Sized, Biodegradable Microspheres Labeled with 188 Re	A common form of treatment for patients with hepatocellular carcinoma (HCC) is transarterial radioembolization (TARE) with non-degradable glass or res
January 01, 2019	Inhibiting Glutamine-Dependent mTORC1 Activation Ameliorates Liver Cancers Driven by β-Catenin Mutations	Based on their lobule location, hepatocytes display differential gene expression, including pericentral hepatocytes that surround the central vein, wh
January 01, 2019	In Vivo Quantitative Photoacoustic Diagnosis of Gastric and Intestinal Dysfunctions with a Broad pH-Responsive Sensor	Gastrointestinal diseases affect many people in the world and significantly impair life quality and burden the healthcare system.
December 21, 2018	Quantitative Ultrasound and the Pancreas: Demonstration of Early Detection Capability	OBJECTIVES To show that quantitative ultrasound biomarkers attenuation (AC) and backscatter (BSC) coefficients are effective tools to detect early cha
December 08, 2018	Evaluation of pancreatic tumor development in KPC mice using multi-parametric MRI	Pancreatic ductal adenocarcinoma (PDA) is a fatal disease with very poor prognosis.
December 04, 2018	Up-regulation of FGF15/19 signaling promotes hepatocellular carcinoma in the background of fatty liver	Background: Upregulated fibroblast growth factor 19 (FGF19) expression in human hepatocellular carcinoma (HCC) specimens is associated with tumor prog
December 04, 2018	RET, a Targetable Driver of Pancreatic Adenocarcinoma	Pancreatic ductal adenocarcinoma (PDA) remains a deadly disease, affecting about 40,000 individuals in the United States annually.
December 01, 2018	Low fat but not soy protein isolate was an effective intervention to reduce non-alcoholic fatty liver disease progression in C57BL/6J mice: Monitored by a novel quantitative ultrasound (QUS) method	Untreated non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) lead to irreversible liver damage.
December 01, 2018	Contrast-enhanced ultrasound measurement of pancreatic blood flow dynamics predicts type 1 diabetes progression in preclinical models	In type 1 diabetes (T1D), immune-cell infiltration into the islets of Langerhans (insulitis) and β-cell decline occurs many years before diabetes clin
December 01, 2018	Utilizing Contrast-Enhanced Ultrasound Imaging for Evaluating Fatty Liver Disease Progression in Pre-clinical Mouse Models	We developed a protocol to investigate and optimize the application of contrast-enhanced ultrasound (CEUS) to non-invasive diagnosis of progressing fa
November 25, 2018	C3HeB/FeJ Mice mimic many aspects of gene expression and pathobiological features of human hepatocellular carcinoma	Hepatocellular carcinoma (HCC) remains a deadly cancer, underscoring the need for relevant preclinical models.
November 19, 2018	Noninvasive quantification of oxygen saturation in the portal and hepatic veins in healthy mice and those with colorectal liver metastases using QSM MRI	Purpose: This preclinical study investigated the use of QSM MRI to noninvasively measure venous oxygen saturation (SvO2) in the hepatic and portal vei
July 24, 2018	Four-class tumor staging for early diagnosis and monitoring of murine pancreatic cancer using magnetic resonance and ultrasound	Background.
July 01, 2018	Anti-fibrotic effect of paramylon nanofibers from the WZSL mutant of Euglena gracilis on liver damage induced by CCl 4 in mice	β-glucans, heterogeneous glucose polymers occurring in many organisms, are considered Pathogen-Associated Molecular Patterns (PAMPs), which upon recog
April 22, 2018	Biomimetic nanoparticles delivered hedgehog pathway inhibitor to modify tumour microenvironment and improved chemotherapy for pancreatic carcinoma	The unique tumour microenvironment (TM) of pancreatic ductal adenocarcinoma (PDA) including highly desmoplastic ECM and low tumour perfusion supports

April 07, 2018	Utilizing High Resolution Ultrasound to Monitor Tumor Onset and Growth in Genetically Engineered Pancreatic Cancer Models	The LSL-KrasG12D/+; LSL-Trp53R172H/+; Pdx-1-Cre (KPC) mouse model represents an established and frequently used transgenic model to evaluate novel the
January 18, 2018	The novel TRAIL-receptor agonist APG350 exerts superior therapeutic activity in pancreatic cancer cells	Tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) has raised attention as a novel anticancer therapeutic as it induces apoptosis prefere
January 01, 2018	A novel mouse model of human prostate cancer to study intraprostatic tumor growth and the development of lymph node metastases	BACKGROUND: In this study, we aimed to establish a versatile in vivo model of prostate cancer, which adequately mimics intraprostatic tumor growth, an
January 01, 2018	Generation and testing of clinical-grade exosomes for pancreatic cancer	Exosomes are extracellular vesicles produced by all cells with a remarkable ability to efficiently transfer genetic material, including exogenously lo
January 01, 2018	Targeting the NRG1/HER3 pathway in tumor cells and cancer-associated fibroblasts with an anti-neuregulin 1 antibody inhibits tumor growth in pre-clinical models of pancreatic cancer	Neuregulin 1 (NRG1), a ligand for HER3 and HER4 receptors, is secreted by both pancreatic tumor cells (PC) and cancer-associated fibroblasts (CAFs), t
January 01, 2018	Anti-angiogenic drug scheduling optimisation with application to colorectal cancer	Bevacizumab (bvz) is a first choice anti-angiogenic drug in oncology and is primarily administered in combination with chemotherapy.
January 01, 2018	A Spectral Fiedler Field-based Contrast Platform for Imaging of Nanoparticles in Colon Tumor	In efforts to improve solid tumor imaging, and enable image-guided drug delivery (IGDD), multiple types of clinical imaging modalities have been combi
January 01, 2018	A catalase-loaded hierarchical zeolite as an implantable nanocapsule for ultrasound-guided oxygen self-sufficient photodynamic therapy against pancreatic cancer	Photodynamic therapy (PDT) is an alternative strategy for treating pancreatic cancer (PC) in clinics.
January 01, 2018	Chemotherapy and Radiofrequency-Induced Mild Hyperthermia Combined Treatment of Orthotopic Pancreatic Ductal Adenocarcinoma Xenografts	Patients with pancreatic ductal adenocarcinomas (PDAC) have one of the poorest survival rates of all cancers.
January 01, 2018	Surgery for Obesity and Related Diseases: II. Experimental Validation of Longitudinal Speed of Sound Estimates in the Diagnosis of Hepatic Steatosis	This study validates a non-invasive, quantitative technique to diagnose steatosis within tissue.
January 01, 2018	Complement 5a stimulates macrophage polarization and contributes to tumor metastases of colon cancer	Inflammatory cells such as macrophages can play a pro-tumorigenic role in the tumor stroma.
January 01, 2018	Serological biomarkers associate ultrasound characteristics of steatohepatitis in mice with liver cancer	Banana is the common name for herbaceous plants of the genus Musa and for the fruit they produce. It is one of the oldest cultivated plants.
December 27, 2017	In Vitro and In Vivo Comparison of Gemcitabine and the Gemcitabine Analog 1-(2′-deoxy-2′-fluoroarabinofuranosyl) Cytosine (FAC) in Human Orthotopic and Genetically Modified Mouse Pancreatic Cancer Models	Purpose: Although gemcitabine is a mainstay of pancreatic cancer therapy, it is only moderately effective, and it would be desirable to measure drug u
July 01, 2017	Metabotropic glutamate receptor 5 mediates the suppressive effect of 6-OHDA-induced model of Parkinson's disease on liver cancer	Numerous epidemiological studies suggested that there is a variable cancer risk in patients with Parkinson's disease (PD).
April 01, 2017	A compromised liver alters polychlorinated biphenyl-mediated toxicity	Exposure to environmental toxicants namely polychlorinated biphenyls (PCBs) is correlated with multiple health disorders including liver and cardiovas

March 01, 2017	Molecular Contrast-Enhanced Ultrasound Imaging of Radiation-Induced P-Selectin Expression in Healthy Mice Colon	Purpose To evaluate the feasibility of using molecular contrast-enhanced ultrasound (mCEUS) to image radiation (XRT)-induced expression of cell adhesi
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	Detection and characterization of murine colitis and carcinogenesis by molecularly targeted contrast-enhanced ultrasound	AIM To study mucosal addressin cellular adhesion molecule-1 (MAdCAM-1) and vascular endothelial growth factor (VEGF)-targeted contrast enhanced ultras
December 19, 2016	Synthesis and functionalization of protease-activated nanoparticles with tissue plasminogen activator peptides as targeting moiety and diagnostic tool for pancreatic cancer	Background: Functionalized nanoparticles (NPs) are one promising tool for detecting specific molecular targets and combine molecular biology and nanot
December 08, 2016	PD L1 blockade enhances response of pancreatic ductal adenocarcinoma to radiotherapy	Pancreatic ductal adenocarcinoma (PDAC) is considered a non-immunogenic tumor, and immune checkpoint inhibitor monotherapy lacks efficacy in this dise
December 06, 2016	Mitochondrial Targeting of Metformin Enhances Its Activity against Pancreatic Cancer	Pancreatic cancer is one of the hardest-to-treat types of neoplastic diseases.
December 01, 2016	Suppression of Tumor Growth and Muscle Wasting in a Transgenic Mouse Model of Pancreatic Cancer by the Novel Histone Deacetylase Inhibitor AR-42	PURPOSE: Pancreatic ductal adenocarcinoma (PDAC) is the third leading cause of cancer death in the United States.
October 24, 2016	Quantitative assessment of pancreatic cancer precursor lesions in IHC-stained tissue with a tissue image analysis platform	Tissue image analysis (tIA) is emerging as a powerful tool for quantifying biomarker expression and distribution in complex diseases and tissues.
October 12, 2016	Anti-VEGF therapy induces ECM remodeling and mechanical barriers to therapy in colorectal cancer liver metastases	The survival benefit of anti–vascular endothelial growth factor (VEGF) therapy in metastatic colorectal cancer (mCRC) patients is limited to a few mon
October 01, 2016	Establishment of a new acute-on-chronic liver failure model	To establish an animal model of acute-on-chronic liver failure (ACLF) that would replicate the pathological process of ACLF in humans, rats were admin
September 08, 2016	Lack of immunoediting in murine pancreatic cancer reversed with neoantigen	In carcinogen-driven cancers, a high mutational burden results in neoepitopes that can be recognized immunologically.
September 01, 2016	Ultrasound-guided therapeutic modulation of hepatocellular carcinoma using complementary microRNAs	Treatment options for patients with hepatocellular carcinoma (HCC) are limited, in particular in advanced and drug resistant HCC.
January 01, 2015	Sonoporation with Acoustic Cluster Therapy (ACT®) induces transient tumour volume reduction in a subcutaneous xenograft model of pancreatic ductal adenocarcinoma	Pancreatic ductal adenocarcinoma (PDAC) remains one of the deadliest cancers with survival averaging only 3months if untreated following diagnosis.
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.
March 01, 2015	Vascular Endothelial Growth Factor Receptor Type 2–targeted Contrast-enhanced US of Pancreatic Cancer Neovasculature in a Genetically Engineered Mouse Model: Potential for Earlier Detection	PURPOSE: To test ultrasonographic (US) imaging with vascular endothelial growth factor receptor type 2 (VEGFR2)-targeted microbubble contrast material
July 06, 2014	Non-invasive multimodal functional imaging of the intestine with frozen micellar naphthalocyanines	There is a need for safer and improved methods for non-invasive imaging of the gastrointestinal tract.

December 01, 2013	Brown adipose tissue blood flow and mass in obesity: a contrast ultrasound study in mice.	BACKGROUND: When activated by the sympathetic nervous system, brown adipose tissue (BAT) increases energy expenditure to produce heat.
November 15, 2013	Crizotinib inhibits metabolic inactivation of gemcitabine in c-Met-driven pancreatic carcinoma.	Pancreatic ductal adenocarcinoma (PDAC) remains a major unsolved health problem.
June 01, 2013	Molecular imaging of inflammation in inflammatory bowel disease with a clinically translatable dual-selectin-targeted US contrast agent: comparison with FDG PET/CT in a mouse model.	PURPOSE: To develop and test a molecular imaging approach that uses ultrasonography (US) and a clinically translatable dual-targeted (P- and E-selecti
April 01, 2013	Inhibition of p38 MAPK attenuates renal atrophy and fibrosis in a murine renal artery stenosis model.	Renal artery stenosis (RAS) is an important cause of chronic renal dysfunction.
January 01, 2013	Pancreatic Cancer	Ultrasonography is a powerful imaging modality that enables noninvasive, real-time visualization of abdominal organs and tissues.
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 re- ceptor 4 (TLR4) expression, which can lead to the development of necrotizing en
March 12, 2012	Gamma secretase inhibition promotes hypoxic necrosis in mouse pancreatic ductal adenocarcinoma.	Pancreatic ductal adenocarcinoma (PDA) is a highly lethal disease that is refractory to medical intervention.
March 01, 2012	High-frequency ultrasound for in vivo measurement of colon wall thickness in mice.	Mouse models are becoming increasingly important in the study of molecular mechanisms of colorectal disease and in the development of novel therapeuti
February 01, 2012	Application of high-frequency ultrasound for the detection of surgical anatomy in the rodent abdomen.	Rats are used extensively in abdominal disease research.
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.
September 27, 2011	Monitoring transplanted islets by high-frequency ultrasound	Islet transplantation is a cell replacement therapy to improve glycometabolic control in type 1 diabetic patients.
July 01, 2011	High-Frequency Ultrasound Imaging for Longitudinal Evaluation of Non-Alcoholic Fatty Liver Disease Progression in Mice	Non-alcoholic fatty liver disease (NAFLD) is one of the most common causes of hepatic damage in developed countries.
January 01, 2010	Development of an orthotopic human pancreatic cancer xenograft model using ultrasound guided injection of cells.	Mice have been employed as models of cancer for over a century, providing significant advances in our understanding of this multifaceted family of dis
December 08, 2009	Complementarity of ultrasound and fluorescence imaging in an orthotopic mouse model of pancreatic cancer	BACKGROUND: Pancreatic cancer is a devastating disease characterized by dismal 5-year survival rates and limited treatment options.
June 12, 2009	Inhibition of Hedgehog Signaling Enhances Delivery of Chemotherapy in a Mouse Model of Pancreatic Cancer	Pancreatic ductal adenocarcinoma (PDA) is among the most lethal human cancers in part because it is insensitive to many chemotherapeutic drugs.
September 01, 2008	Intestinal gluconeogenesis is a key factor for early metabolic changes after gastric bypass but not after gastric lap-band in mice.	Unlike the adjustable gastric banding procedure (AGB), Roux-en-Y gastric bypass surgery (RYGBP) in humans has an intriguing effect: a rapid and substa

January 01, 2007	CPI-1189 Protects against TNBS-induced Colitis in a Rodent Model	Abstract: Nitrone-related therapeutics (NRTs) represents a new class of molecules that may be effective in treating inflammatory conditions.
June 15, 2005	Three-dimensional high-frequency ultrasound imaging for longitudinal evaluation of liver metastases in preclinical models.	Liver metastasis is a clinically significant contributor to the mortality associated with melanoma, colon, and breast cancer.