Craig A Lygate

List of Publications by Year
in descending order

90 papers	4,140 citations	101384 36 h-index	118652 62 g-index
91 all docs	91 docs citations	91 times ranked	5604 citing authors

#	Article	IF	Citations
1	Cardiac Neuronal Nitric Oxide Synthase Isoform Regulates Myocardial Contraction and Calcium Handling. Circulation Research, 2003, 92, e52-9.	2.0	231
2	Fumarate Is Cardioprotective via Activation of the Nrf2 Antioxidant Pathway. Cell Metabolism, 2012, 15, 361-371.	7.2	231
3	Abnormal Sympathoadrenal Development and Systemic Hypotension in <i>PHD3</i>^{<i>âˆ’</i>/<i>âˆ’</i>} Mice. Molecular and Cellular Biology, 2008, 28, 3386-3400.	1.1	176
4	nNOS Gene Deletion Exacerbates Pathological Left Ventricular Remodeling and Functional Deterioration After Myocardial Infarction. Circulation, 2005, 112, 3729-3737.	1.6	139
5	Fast, high-resolution in vivo cine magnetic resonance imaging in normal and failing mouse hearts on a vertical 11.7 T system. Journal of Magnetic Resonance Imaging, 2003, 18, 691-701.	1.9	134
6	Assessment of motion gating strategies for mouse magnetic resonance at high magnetic fields. Journal of Magnetic Resonance Imaging, 2004, 19, 229-237.	1.9	121
7	A Mutation in the Mitochondrial Fission Gene Dnm1l Leads to Cardiomyopathy. PLoS Genetics, 2010, 6, e1001000.	1.5	119
8	Fatty acid transporter levels and palmitate oxidation rate correlate with ejection fraction in the infarcted rat heart. Cardiovascular Research, 2006, 72, 430-437.	1.8	116
9	Increased mitochondrial uncoupling proteins, respiratory uncoupling and decreased efficiency in the chronically infarcted rat heart. Journal of Molecular and Cellular Cardiology, 2008, 44, 694-700.	0.9	112
10	Quantitative 3-Dimensional Echocardiography for Accurate and Rapid Cardiac Phenotype Characterization in Mice. Circulation, 2004, 110, 1632-1637.	1.6	105
11	Living Without Creatine. Circulation Research, 2013, 112, 945-955.	2.0	104
12	Reduced Inotropic Reserve and Increased Susceptibility to Cardiac Ischemia/Reperfusion Injury in Phosphocreatine-Deficient Guanidinoacetate- N -Methyltransferaseâ€“Knockout Mice. Circulation, 2005, 111, 2477-2485.	1.6	100
13	HIF prolyl hydroxylases in the rat; organ distribution and changes in expression following hypoxia and coronary artery ligation. Journal of Molecular and Cellular Cardiology, 2006, 41, 68-77.	0.9	96
14	Supranormal Myocardial Creatine and Phosphocreatine Concentrations Lead to Cardiac Hypertrophy and Heart Failure. Circulation, 2005, 112, 3131-3139.	1.6	92
15	Acute myocardial infarction activates distinct inflammation and proliferation pathways in circulating monocytes, prior to recruitment, and identified through conserved transcriptional responses in mice and humans. European Heart Journal, 2015, 36, 1923-1934.	1.0	88
16	The PPARÎ³-activator rosiglitazone does not alter remodeling but increases mortality in rats post-myocardial infarction. Cardiovascular Research, 2003, 58, 632-637.	1.8	85
17	Refined approach for quantification of in vivo ischemia-reperfusion injury in the mouse heart. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 297, H2054-H2058.	1.5	83
18	Failing mouse hearts utilize energy inefficiently and benefit from improved coupling of glycolysis and glucose oxidation. Cardiovascular Research, 2014, 101, 30-38.	1.8	83

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19	Moderate elevation of intracellular creatine by targeting the creatine transporter protects mice from acute myocardial infarction. Cardiovascular Research, 2012, 96, 466-475.	1.8	78
20	Characterization of the role of Î³2 R531G mutation in AMP-activated protein kinase in cardiac hypertrophy and Wolff-Parkinson-White syndrome. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H1942-H1951.	1.5	74
21	Metabolic remodeling in hypertrophied and failing myocardium: a review. American Journal of Physiology - Heart and Circulatory Physiology, 2017, 313, H597-H616.	1.5	68
22	How to Perform an Accurate Assessment of Cardiac Function in Mice using High-Resolution Magnetic Resonance Imaging. Journal of Cardiovascular Magnetic Resonance, 2006, 8, 693-701.	1.6	64
23	Irbesartan lowers superoxide levels and increases nitric oxide bioavailability in blood vessels from spontaneously hypertensive stroke-prone rats. Journal of Hypertension, 2002, 20, 281-286.	0.3	63
24	Advanced methods for quantification of infarct size in mice using three-dimensional high-field late gadolinium enhancement MRI. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 296, H1200-H1208.	1.5	63
25	The creatine kinase energy transport system in the failing mouse heart. Journal of Molecular and Cellular Cardiology, 2007, 42, 1129-1136.	0.9	61
26	Myocardial infarction causes inflammation and leukocyte recruitment at remote sites in the myocardium and in the renal glomerulus. Inflammation Research, 2013, 62, 515-525.	1.6	60
27	Reduced Vascular NO Bioavailability in Diabetes Increases Platelet Activation In Vivo. Arteriosclerosis, Thrombosis, and Vascular Biology, 2004, 24, 1720-1726.	1.1	54
28	Mice over-expressing the myocardial creatine transporter develop progressive heart failure and show decreased glycolytic capacity. Journal of Molecular and Cellular Cardiology, 2010, 48, 582-590.	0.9	53
29	Insulin resistance, abnormal energy metabolism and increased ischemic damage in the chronically infarcted rat heart. Cardiovascular Research, 2006, 71, 149-157.	1.8	49
30	Augmentation of Creatine in the Heart. Mini-Reviews in Medicinal Chemistry, 2015, 16, 19-28.	1.1	49
31	Resolving Fine Cardiac Structures in Rats with High-Resolution Diffusion Tensor Imaging. Scientific Reports, 2016, 6, 30573.	1.6	47
32	Mechanisms of creatine depletion in chronically failing rat heart. Journal of Molecular and Cellular Cardiology, 2005, 38, 309-313.	0.9	46
33	Validation of diffusion tensor MRI measurements of cardiac microstructure with structure tensor synchrotron radiation imaging. Journal of Cardiovascular Magnetic Resonance, 2016, 19, 31.	1.6	42
34	Refinement of analgesia following thoracotomy and experimental myocardial infarction using the Mouse Grimace Scale. Experimental Physiology, 2015, 100, 164-172.	0.9	40
35	Dietary Supplementation with Homoarginine Preserves Cardiac Function in a Murine Model of Post-Myocardial Infarction Heart Failure. Circulation, 2017, 135, 400-402.	1.6	40
36	Impaired cardiac contractile function in arginine:glycine amidinotransferase knockout mice devoid of creatine is rescued by homoarginine but not creatine. Cardiovascular Research, 2018, 114, 417-430.	1.8	40

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37	Accelerating cineâ€MR imaging in mouse hearts using compressed sensing. Journal of Magnetic Resonance Imaging, 2011, 34, 1072-1079.	1.9	39
38	Serial high resolution 3Dâ€“MRI after aortic banding in mice: band internalization is a source of variability in the hypertrophic response. Basic Research in Cardiology, 2006, 101, 8-16.	2.5	38
39	1H-MR spectroscopy for analysis of cardiac lipid and creatine metabolism. Heart Failure Reviews, 2013, 18, 657-668.	1.7	34
40	Over-expression of mitochondrial creatine kinase in the murine heart improves functional recovery and protects against injury following ischaemiaâ€“reperfusion. Cardiovascular Research, 2018, 114, 858-869.	1.8	33
41	A Mouse Model of Creatine Transporter Deficiency Reveals Impaired Motor Function and Muscle Energy Metabolism. Frontiers in Physiology, 2018, 9, 773.	1.3	32
42	Ultraâ€fast and accurate assessment of cardiac function in rats using accelerated MRI at 9.4 Tesla. Magnetic Resonance in Medicine, 2008, 59, 636-641.	1.9	30
43	Unchanged mitochondrial organization and compartmentation of high-energy phosphates in creatine-deficient GAMT^{âˆ’/âˆ’}mouse hearts. American Journal of Physiology - Heart and Circulatory Physiology, 2013, 305, H506-H520.	1.5	30
44	A requirement for Gch1 and tetrahydrobiopterin in embryonic development. Developmental Biology, 2015, 399, 129-138.	0.9	30
45	CINE-MR Imaging of the Normal and Infarcted Rat Heart Using an 11.7 T Vertical Bore MR System. Journal of Cardiovascular Magnetic Resonance, 2006, 8, 327-333.	1.6	29
46	Cardiac phenotype of mitochondrial creatine kinase knockout mice is modified on a pure C57BL/6 genetic background. Journal of Molecular and Cellular Cardiology, 2009, 46, 93-99.	0.9	29
47	Highâ€energy phosphotransfer in the failing mouse heart: role of adenylate kinase and glycolytic enzymes. European Journal of Heart Failure, 2010, 12, 1282-1289.	2.9	29
48	Overexpression of mitochondrial creatine kinase preserves cardiac energetics without ameliorating murine chronic heart failure. Basic Research in Cardiology, 2020, 115, 12.	2.5	29
49	Accelerated cardiac magnetic resonance imaging in the mouse using an eightâ€channel array at 9.4 Tesla. Magnetic Resonance in Medicine, 2011, 65, 60-70.	1.9	25
50	Improved method for quantification of regional cardiac function in mice using phaseâ€contrast MRI. Magnetic Resonance in Medicine, 2012, 67, 541-551.	1.9	25
51	Compressed sensing to accelerate magnetic resonance spectroscopic imaging: evaluation and application to 23Na-imaging of mouse hearts. Journal of Cardiovascular Magnetic Resonance, 2015, 17, 45.	1.6	25
52	Cardiac structure and function during ageing in energetically compromised Guanidinoacetate N-methyltransferase (GAMT)-knockout mice â€“ a one year longitudinal MRI study. Journal of Cardiovascular Magnetic Resonance, 2008, 10, 9.	1.6	24
53	Creatine uptake in mouse hearts with genetically altered creatine levels. Journal of Molecular and Cellular Cardiology, 2008, 45, 453-459.	0.9	24
54	Chronic creatine kinase deficiency eventually leads to congestive heart failure, but severity is dependent on genetic background, gender and age. Basic Research in Cardiology, 2012, 107, 276.	2.5	24

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55	Endothelial Cell Tetrahydrobiopterin Modulates Sensitivity to Ang (Angiotensin) IIâ€"Induced Vascular Remodeling, Blood Pressure, and Abdominal Aortic Aneurysm. Hypertension, 2018, 72, 128-138.	1.3	22
56	Adaptation to HIF1Î± Deletion in Hypoxic Cancer Cells by Upregulation of GLUT14 and Creatine Metabolism. Molecular Cancer Research, 2019, 17, 1531-1544.	1.5	22
57	Increasing creatine kinase activity protects against hypoxia / reoxygenation injury but not against anthracycline toxicity in vitro. PLoS ONE, 2017, 12, e0182994.	1.1	22
58	Investigating cardiac energetics in heart failure. Experimental Physiology, 2013, 98, 601-605.	0.9	21
59	The creatine kinase system as a therapeutic target for myocardial ischaemiaâ€"reperfusion injury. Biochemical Society Transactions, 2018, 46, 1119-1127.	1.6	20
60	Long-term stability of cardiac function in normal and chronically failing mouse hearts in a vertical-bore MR system. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2004, 17, 162-169.	1.1	19
61	Metabolic Flux as a Predictor of Heart Failure Prognosis. Circulation Research, 2014, 114, 1228-1230.	2.0	19
62	Surgical models of hypertrophy and heart failure: Myocardial infarction and transverse aortic constriction. Drug Discovery Today: Disease Models, 2006, 3, 283-290.	1.2	18
63	Cardiac dysfunction and peri-weaning mortality in malonyl-coenzyme A decarboxylase (MCD) knockout mice as a consequence of restricting substrate plasticity. Journal of Molecular and Cellular Cardiology, 2014, 75, 76-87.	0.9	18
64	Cardiac Energetics in Patients With Aortic Stenosis and Preserved Versus Reduced Ejection Fraction. Circulation, 2020, 141, 1971-1985.	1.6	18
65	The subcellular localization of neuronal nitric oxide synthase determines the downstream effects of NO on myocardial function. Cardiovascular Research, 2017, 113, 321-331.	1.8	17
66	Localized rest and stress human cardiac creatine kinase reaction kinetics at 3ÂT. NMR in Biomedicine, 2019, 32, e4085.	1.6	16
67	Proteomic and metabolomic changes driven by elevating myocardial creatine suggest novel metabolic feedback mechanisms. Amino Acids, 2016, 48, 1969-1981.	1.2	15
68	Myocardial Creatine Levels Do Not Influence Response to Acute Oxidative Stress in Isolated Perfused Heart. PLoS ONE, 2014, 9, e109021.	1.1	15
69	Changes in creatine transporter function during cardiac maturation in the rat. BMC Developmental Biology, 2010, 10, 70.	2.1	14
70	BH4 Increases nNOS Activity and Preserves Left Ventricular Function in Diabetes. Circulation Research, 2021, 128, 585-601.	2.0	13
71	A role for thioredoxin-interacting protein (Txnip) in cellular creatine homeostasis. American Journal of Physiology - Endocrinology and Metabolism, 2013, 305, E263-E270.	1.8	12
72	Age-Dependent Decline in Cardiac Function in Guanidinoacetate-N-Methyltransferase Knockout Mice. Frontiers in Physiology, 2020, 10, 1535.	1.3	11

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73	Accelerating global left-ventricular function assessment in mice using reduced slice acquisition and three-dimensional guide-point modelling. Journal of Cardiovascular Magnetic Resonance, 2011, 13, 49.	1.6	10
74	Aberrant developmental titin splicing and dysregulated sarcomere length in Thymosin Î²4 knockout mice. Journal of Molecular and Cellular Cardiology, 2017, 102, 94-107.	0.9	10
75	Protective Effect of Creatine Elevation against Ischaemia Reperfusion Injury Is Retained in the Presence of Co-Morbidities and during Cardioplegia. PLoS ONE, 2016, 11, e0146429.	1.1	10
76	Ribose Supplementation Alone or with Elevated Creatine Does Not Preserve High Energy Nucleotides or Cardiac Function in the Failing Mouse Heart. PLoS ONE, 2013, 8, e66461.	1.1	9
77	Highly accelerated cardiac functional MRI in rodent hearts using compressed sensing and parallel imaging at 9.4T. Journal of Cardiovascular Magnetic Resonance, 2012, 14, P65.	1.6	8
78	MLP accumulation and remodelling in the infarcted rat heart. European Journal of Heart Failure, 2006, 8, 343-346.	2.9	6
79	ASPP2 deficiency causes features of 1q41q42 microdeletion syndrome. Cell Death and Differentiation, 2016, 23, 1973-1984.	5.0	5
80	Letter to the editor: Infarct size measurements are critically important when comparing interventions affecting ventricular remodeling. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H3221-H3221.	1.5	4
81	Cardiac expression and location of hexokinase changes in a mouse model of pure creatine deficiency. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 320, H613-H629.	1.5	4
82	Metabolic arithmetic: do two wrongs make a right?. Cardiovascular Research, 2017, 113, 1093-1095.	1.8	3
83	Altered calcium handling in cardiomyocytes from arginine-glycine amidinotransferase-knockout mice is rescued by creatine. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 320, H805-H825.	1.5	3
84	Assessing Myocardial Microstructure With Biophysical Models of Diffusion MRI. IEEE Transactions on Medical Imaging, 2021, 40, 3775-3786.	5.4	3
85	Subtle Role for Adenylate Kinase 1 in Maintaining Normal Basal Contractile Function and Metabolism in the Murine Heart. Frontiers in Physiology, 2021, 12, 623969.	1.3	3
86	T2-mapping of ischaemia/reperfusion-injury in the in vivo mouse heart. Journal of Cardiovascular Magnetic Resonance, 2010, 12, .	1.6	2
87	Accurate infarct-size measurements from accelerated, compressed sensing reconstructed cine-MRI images in mouse hearts. Journal of Cardiovascular Magnetic Resonance, 2012, 14, .	1.6	2
88	Insights Into the Metabolic Aspects of Aortic Stenosis With the Use of MagneticÂResonance Imaging. JACC: Cardiovascular Imaging, 2022, 15, 2112-2126.	2.3	2
89	The Pitfalls of in vivo Cardiac Physiology in Genetically Modified Mice â€" Lessons Learnt the Hard Way in the Creatine Kinase System. Frontiers in Physiology, 2021, 12, 685064.	1.3	1
90	Energetics in the Hypertrophied and Failing Heart. , 2016, , 183-190.		0