

# Craig A Lygate

## List of Publications by Year in descending order

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90  
papers

4,140  
citations

101543

36  
h-index

118850

62  
g-index

91  
all docs

91  
docs citations

91  
times ranked

5604  
citing authors

#	ARTICLE	IF	CITATIONS
1	Insights Into the Metabolic Aspects of Aortic Stenosis With the Use of Magnetic Resonance Imaging. <i>JACC: Cardiovascular Imaging</i> , 2022, 15, 2112-2126.	5.3	2
2	Altered calcium handling in cardiomyocytes from arginine-glycine amidinotransferase-knockout mice is rescued by creatine. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2021, 320, H805-H825.	3.2	3
3	Cardiac expression and location of hexokinase changes in a mouse model of pure creatine deficiency. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2021, 320, H613-H629.	3.2	4
4	Assessing Myocardial Microstructure With Biophysical Models of Diffusion MRI. <i>IEEE Transactions on Medical Imaging</i> , 2021, 40, 3775-3786.	8.9	3
5	BH4 Increases nNOS Activity and Preserves Left Ventricular Function in Diabetes. <i>Circulation Research</i> , 2021, 128, 585-601.	4.5	13
6	Subtle Role for Adenylate Kinase 1 in Maintaining Normal Basal Contractile Function and Metabolism in the Murine Heart. <i>Frontiers in Physiology</i> , 2021, 12, 623969.	2.8	3
7	The Pitfalls of in vivo Cardiac Physiology in Genetically Modified Mice – Lessons Learnt the Hard Way in the Creatine Kinase System. <i>Frontiers in Physiology</i> , 2021, 12, 685064.	2.8	1
8	Age-Dependent Decline in Cardiac Function in Guanidinoacetate-N-Methyltransferase Knockout Mice. <i>Frontiers in Physiology</i> , 2020, 10, 1535.	2.8	11
9	Overexpression of mitochondrial creatine kinase preserves cardiac energetics without ameliorating murine chronic heart failure. <i>Basic Research in Cardiology</i> , 2020, 115, 12.	5.9	29
10	Cardiac Energetics in Patients With Aortic Stenosis and Preserved Versus Reduced Ejection Fraction. <i>Circulation</i> , 2020, 141, 1971-1985.	1.6	18
11	Adaptation to HIF1 $\alpha$ Deletion in Hypoxic Cancer Cells by Upregulation of GLUT14 and Creatine Metabolism. <i>Molecular Cancer Research</i> , 2019, 17, 1531-1544.	3.4	22
12	Localized rest and stress human cardiac creatine kinase reaction kinetics at 3T. <i>NMR in Biomedicine</i> , 2019, 32, e4085.	2.8	16
13	Over-expression of mitochondrial creatine kinase in the murine heart improves functional recovery and protects against injury following ischaemia–reperfusion. <i>Cardiovascular Research</i> , 2018, 114, 858-869.	3.8	33
14	Impaired cardiac contractile function in arginine:glycine amidinotransferase knockout mice devoid of creatine is rescued by homoarginine but not creatine. <i>Cardiovascular Research</i> , 2018, 114, 417-430.	3.8	40
15	The creatine kinase system as a therapeutic target for myocardial ischaemia–reperfusion injury. <i>Biochemical Society Transactions</i> , 2018, 46, 1119-1127.	3.4	20
16	Endothelial Cell Tetrahydrobiopterin Modulates Sensitivity to Ang (Angiotensin) II–Induced Vascular Remodeling, Blood Pressure, and Abdominal Aortic Aneurysm. <i>Hypertension</i> , 2018, 72, 128-138.	2.7	22
17	A Mouse Model of Creatine Transporter Deficiency Reveals Impaired Motor Function and Muscle Energy Metabolism. <i>Frontiers in Physiology</i> , 2018, 9, 773.	2.8	32
18	Aberrant developmental titin splicing and dysregulated sarcomere length in Thymosin $\beta$ 4 knockout mice. <i>Journal of Molecular and Cellular Cardiology</i> , 2017, 102, 94-107.	1.9	10

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19	Dietary Supplementation with Homoarginine Preserves Cardiac Function in a Murine Model of Post-Myocardial Infarction Heart Failure. <i>Circulation</i> , 2017, 135, 400-402.	1.6	40
20	Metabolic arithmetic: do two wrongs make a right?. <i>Cardiovascular Research</i> , 2017, 113, 1093-1095.	3.8	3
21	Metabolic remodeling in hypertrophied and failing myocardium: a review. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2017, 313, H597-H616.	3.2	68
22	The subcellular localization of neuronal nitric oxide synthase determines the downstream effects of NO on myocardial function. <i>Cardiovascular Research</i> , 2017, 113, 321-331.	3.8	17
23	Increasing creatine kinase activity protects against hypoxia / reoxygenation injury but not against anthracycline toxicity in vitro. <i>PLoS ONE</i> , 2017, 12, e0182994.	2.5	22
24	Energetics in the Hypertrophied and Failing Heart. , 2016, , 183-190.		0
25	Resolving Fine Cardiac Structures in Rats with High-Resolution Diffusion Tensor Imaging. <i>Scientific Reports</i> , 2016, 6, 30573.	3.3	47
26	Proteomic and metabolomic changes driven by elevating myocardial creatine suggest novel metabolic feedback mechanisms. <i>Amino Acids</i> , 2016, 48, 1969-1981.	2.7	15
27	ASPP2 deficiency causes features of 1q41q42 microdeletion syndrome. <i>Cell Death and Differentiation</i> , 2016, 23, 1973-1984.	11.2	5
28	Validation of diffusion tensor MRI measurements of cardiac microstructure with structure tensor synchrotron radiation imaging. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2016, 19, 31.	3.3	42
29	Protective Effect of Creatine Elevation against Ischaemia Reperfusion Injury Is Retained in the Presence of Co-Morbidities and during Cardioplegia. <i>PLoS ONE</i> , 2016, 11, e0146429.	2.5	10
30	Compressed sensing to accelerate magnetic resonance spectroscopic imaging: evaluation and application to <sup>23</sup> Na-imaging of mouse hearts. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2015, 17, 45.	3.3	25
31	Augmentation of Creatine in the Heart. <i>Mini-Reviews in Medicinal Chemistry</i> , 2015, 16, 19-28.	2.4	49
32	A requirement for Gch1 and tetrahydrobiopterin in embryonic development. <i>Developmental Biology</i> , 2015, 399, 129-138.	2.0	30
33	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. <i>European Heart Journal</i> , 2015, 36, 1923-1934.	2.2	88
34	Refinement of analgesia following thoracotomy and experimental myocardial infarction using the Mouse Grimace Scale. <i>Experimental Physiology</i> , 2015, 100, 164-172.	2.0	40
35	Failing mouse hearts utilize energy inefficiently and benefit from improved coupling of glycolysis and glucose oxidation. <i>Cardiovascular Research</i> , 2014, 101, 30-38.	3.8	83
36	Metabolic Flux as a Predictor of Heart Failure Prognosis. <i>Circulation Research</i> , 2014, 114, 1228-1230.	4.5	19

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37	Cardiac dysfunction and peri-weaning mortality in malonyl-coenzyme A decarboxylase (MCD) knockout mice as a consequence of restricting substrate plasticity. <i>Journal of Molecular and Cellular Cardiology</i> , 2014, 75, 76-87.	1.9	18
38	Myocardial Creatine Levels Do Not Influence Response to Acute Oxidative Stress in Isolated Perfused Heart. <i>PLoS ONE</i> , 2014, 9, e109021.	2.5	15
39	Myocardial infarction causes inflammation and leukocyte recruitment at remote sites in the myocardium and in the renal glomerulus. <i>Inflammation Research</i> , 2013, 62, 515-525.	4.0	60
40	Unchanged mitochondrial organization and compartmentation of high-energy phosphates in creatine-deficient <i>GAMT</i> mouse hearts. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2013, 305, H506-H520.	3.2	30
41	<sup>1</sup> H-MR spectroscopy for analysis of cardiac lipid and creatine metabolism. <i>Heart Failure Reviews</i> , 2013, 18, 657-668.	3.9	34
42	A role for thioredoxin-interacting protein (Txnip) in cellular creatine homeostasis. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2013, 305, E263-E270.	3.5	12
43	Investigating cardiac energetics in heart failure. <i>Experimental Physiology</i> , 2013, 98, 601-605.	2.0	21
44	Living Without Creatine. <i>Circulation Research</i> , 2013, 112, 945-955.	4.5	104
45	Ribose Supplementation Alone or with Elevated Creatine Does Not Preserve High Energy Nucleotides or Cardiac Function in the Failing Mouse Heart. <i>PLoS ONE</i> , 2013, 8, e66461.	2.5	9
46	Moderate elevation of intracellular creatine by targeting the creatine transporter protects mice from acute myocardial infarction. <i>Cardiovascular Research</i> , 2012, 96, 466-475.	3.8	78
47	Fumarate Is Cardioprotective via Activation of the Nrf2 Antioxidant Pathway. <i>Cell Metabolism</i> , 2012, 15, 361-371.	16.2	231
48	Accurate infarct-size measurements from accelerated, compressed sensing reconstructed cine-MRI images in mouse hearts. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2012, 14, .	3.3	2
49	Highly accelerated cardiac functional MRI in rodent hearts using compressed sensing and parallel imaging at 9.4T. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2012, 14, P65.	3.3	8
50	Chronic creatine kinase deficiency eventually leads to congestive heart failure, but severity is dependent on genetic background, gender and age. <i>Basic Research in Cardiology</i> , 2012, 107, 276.	5.9	24
51	Improved method for quantification of regional cardiac function in mice using phase-contrast MRI. <i>Magnetic Resonance in Medicine</i> , 2012, 67, 541-551.	3.0	25
52	Accelerating global left-ventricular function assessment in mice using reduced slice acquisition and three-dimensional guide-point modelling. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2011, 13, 49.	3.3	10
53	Accelerating cine-MR imaging in mouse hearts using compressed sensing. <i>Journal of Magnetic Resonance Imaging</i> , 2011, 34, 1072-1079.	3.4	39
54	Accelerated cardiac magnetic resonance imaging in the mouse using an eight-channel array at 9.4 Tesla. <i>Magnetic Resonance in Medicine</i> , 2011, 65, 60-70.	3.0	25

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55	Changes in creatine transporter function during cardiac maturation in the rat. BMC Developmental Biology, 2010, 10, 70.	2.1	14
56	T2-mapping of ischaemia/reperfusion-injury in the in vivo mouse heart. Journal of Cardiovascular Magnetic Resonance, 2010, 12, .	3.3	2
57	High-energy phosphotransfer in the failing mouse heart: role of adenylate kinase and glycolytic enzymes. European Journal of Heart Failure, 2010, 12, 1282-1289.	7.1	29
58	A Mutation in the Mitochondrial Fission Gene Dnm1l Leads to Cardiomyopathy. PLoS Genetics, 2010, 6, e1001000.	3.5	119
59	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.	1.9	53
60	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.	3.2	63
61	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.	3.2	83
62	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.	1.9	29
63	Cardiac structure and function during ageing in energetically compromised Guanidinoacetate N-methyltransferase (GAMT)-knockout mice – a one year longitudinal MRI study. Journal of Cardiovascular Magnetic Resonance, 2008, 10, 9.	3.3	24
64	Ultra-fast and accurate assessment of cardiac function in rats using accelerated MRI at 9.4 Tesla. Magnetic Resonance in Medicine, 2008, 59, 636-641.	3.0	30
65	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.	1.9	112
66	Creatine uptake in mouse hearts with genetically altered creatine levels. Journal of Molecular and Cellular Cardiology, 2008, 45, 453-459.	1.9	24
67	Abnormal Sympathoadrenal Development and Systemic Hypotension in <i>PHD3</i> <sup>-/-</sup> Mice. Molecular and Cellular Biology, 2008, 28, 3386-3400.	2.3	176
68	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.	3.2	4
69	The creatine kinase energy transport system in the failing mouse heart. Journal of Molecular and Cellular Cardiology, 2007, 42, 1129-1136.	1.9	61
70	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
71	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.	1.9	96
72	Serial high resolution 3D-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.	5.9	38

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73	Insulin resistance, abnormal energy metabolism and increased ischemic damage in the chronically infarcted rat heart. <i>Cardiovascular Research</i> , 2006, 71, 149-157.	3.8	49
74	How to Perform an Accurate Assessment of Cardiac Function in Mice using High-Resolution Magnetic Resonance Imaging. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2006, 8, 693-701.	3.3	64
75	Fatty acid transporter levels and palmitate oxidation rate correlate with ejection fraction in the infarcted rat heart. <i>Cardiovascular Research</i> , 2006, 72, 430-437.	3.8	116
76	MLP accumulation and remodelling in the infarcted rat heart. <i>European Journal of Heart Failure</i> , 2006, 8, 343-346.	7.1	6
77	CINE-MR Imaging of the Normal and Infarcted Rat Heart Using an 11.7 T Vertical Bore MR System. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2006, 8, 327-333.	3.3	29
78	Characterization of the role of $\hat{\text{I}}^{\text{32}}$ R531G mutation in AMP-activated protein kinase in cardiac hypertrophy and Wolff-Parkinson-White syndrome. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2006, 290, H1942-H1951.	3.2	74
79	nNOS Gene Deletion Exacerbates Pathological Left Ventricular Remodeling and Functional Deterioration After Myocardial Infarction. <i>Circulation</i> , 2005, 112, 3729-3737.	1.6	139
80	Supranormal Myocardial Creatine and Phosphocreatine Concentrations Lead to Cardiac Hypertrophy and Heart Failure. <i>Circulation</i> , 2005, 112, 3131-3139.	1.6	92
81	Reduced Inotropic Reserve and Increased Susceptibility to Cardiac Ischemia/Reperfusion Injury in Phosphocreatine-Deficient Guanidinoacetate- N -Methyltransferase $\hat{\text{e}}$ Knockout Mice. <i>Circulation</i> , 2005, 111, 2477-2485.	1.6	100
82	Mechanisms of creatine depletion in chronically failing rat heart. <i>Journal of Molecular and Cellular Cardiology</i> , 2005, 38, 309-313.	1.9	46
83	Quantitative 3-Dimensional Echocardiography for Accurate and Rapid Cardiac Phenotype Characterization in Mice. <i>Circulation</i> , 2004, 110, 1632-1637.	1.6	105
84	Reduced Vascular NO Bioavailability in Diabetes Increases Platelet Activation In Vivo. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2004, 24, 1720-1726.	2.4	54
85	Long-term stability of cardiac function in normal and chronically failing mouse hearts in a vertical-bore MR system. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2004, 17, 162-169.	2.0	19
86	Assessment of motion gating strategies for mouse magnetic resonance at high magnetic fields. <i>Journal of Magnetic Resonance Imaging</i> , 2004, 19, 229-237.	3.4	121
87	Fast, high-resolution in vivo cine magnetic resonance imaging in normal and failing mouse hearts on a vertical 11.7 T system. <i>Journal of Magnetic Resonance Imaging</i> , 2003, 18, 691-701.	3.4	134
88	Cardiac Neuronal Nitric Oxide Synthase Isoform Regulates Myocardial Contraction and Calcium Handling. <i>Circulation Research</i> , 2003, 92, e52-9.	4.5	231
89	The PPAR $\hat{\text{I}}^{\text{3}}$ -activator rosiglitazone does not alter remodeling but increases mortality in rats post-myocardial infarction. <i>Cardiovascular Research</i> , 2003, 58, 632-637.	3.8	85
90	Irbesartan lowers superoxide levels and increases nitric oxide bioavailability in blood vessels from spontaneously hypertensive stroke-prone rats. <i>Journal of Hypertension</i> , 2002, 20, 281-286.	0.5	63