Barclay Morrison

List of Publications by Year
in descending order

101	13,742	94269	49773
papers	citations	37 h-index	87 g-index

103	103	103	16318
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ferroptosis: An Iron-Dependent Form of Nonapoptotic Cell Death. Cell, 2012, 149, 1060-1072.	13.5	9,007
2	Mechanical Heterogeneity of the Rat Hippocampus Measured by Atomic Force Microscope Indentation. Journal of Neurotrauma, 2007, 24, 812-822.	1.7	280
3	Flexible and stretchable micro-electrodes for in vitro and in vivo neural interfaces. Medical and Biological Engineering and Computing, 2010, 48, 945-954.	1.6	226
4	In Vitro Models of Traumatic Brain Injury. Annual Review of Biomedical Engineering, 2011, 13, 91-126.	5.7	220
5	Permeability of Endothelial and Astrocyte Cocultures: In Vitro Bloodâ€“Brain Barrier Models for Drug Delivery Studies. Annals of Biomedical Engineering, 2010, 38, 2499-2511.	1.3	201
6	In VitroCentral Nervous System Models of Mechanically Induced Trauma: A Review. Journal of Neurotrauma, 1998, 15, 911-928.	1.7	182
7	The Mechanics of Traumatic Brain Injury: A Review of What We Know and What We Need to Know for Reducing Its Societal Burden. Journal of Biomechanical Engineering, 2014, 136, 021008.	0.6	179
8	Molecules of Various Pharmacologically-Relevant Sizes Can Cross the Ultrasound-Induced Blood-Brain Barrier Opening in vivo. Ultrasound in Medicine and Biology, 2010, 36, 58-67.	0.7	170
9	An in vitro model of traumatic brain injury utilising two-dimensional stretch of organotypic hippocampal slice cultures. Journal of Neuroscience Methods, 2006, 150, 192-201.	1.3	163
10	Age-Dependent Regional Mechanical Properties of the Rat Hippocampus and Cortex. Journal of Biomechanical Engineering, 2010, 132, 011010.	0.6	124
11	Vertically Aligned Carbon Nanofiber Arrays Record Electrophysiological Signals from Hippocampal Slices. Nano Letters, 2007, 7, 2188-2195.	4.5	123
12	A tissue level tolerance criterion for living brain developed with an in vitro model of traumatic mechanical loading. Stapp Car Crash Journal, 2003, 47, 93-105.	1.1	123
13	Temporal development of hippocampal cell death is dependent on tissue strain but not strain rate. Journal of Biomechanics, 2006, 39, 2810-2818.	0.9	122
14	Organotypic cultures as tools for functional screening in the CNS. Drug Discovery Today, 2005, 10, 993-1000.	3.2	111
15	Activation of signaling pathways following localized delivery of systemically administered neurotrophic factors across the bloodâ€“brain barrier using focused ultrasound and microbubbles. Physics in Medicine and Biology, 2012, 57, N65-N81.	1.6	102
16	An open-source toolbox for automated phenotyping of mice in behavioral tasks. Frontiers in Behavioral Neuroscience, 2014, 8, 349.	1.0	92
17	Region-specific tolerance criteria for the living brain. Stapp Car Crash Journal, 2007, 51, 127-38.	1.1	89
18	A Detailed Viscoelastic Characterization of the P17 and Adult Rat Brain. Journal of Neurotrauma, 2011, 28, 2235-2244.	1.7	80

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19	Lactate and glucose as energy substrates during, and after, oxygen deprivation in rat hippocampal acute and cultured slices. Journal of Neurochemistry, 2003, 87, 1381-1390.	2.1	74
20	Antagonism of purinergic signalling improves recovery from traumatic brain injury. Brain, 2013, 136, 65-80.	3.7	73
21	Dexamethasone Potentiates in Vitro Blood-Brain Barrier Recovery after Primary Blast Injury by Glucocorticoid Receptor-Mediated Upregulation of ZO-1 Tight Junction Protein. Journal of Cerebral Blood Flow and Metabolism, 2015, 35, 1191-1198.	2.4	73
22	Regional mechanical properties of human brain tissue for computational models of traumatic brain injury. Acta Biomaterialia, 2017, 55, 333-339.	4.1	70
23	Dynamic, Regional Mechanical Properties of the Porcine Brain: Indentation in the Coronal Plane. Journal of Biomechanical Engineering, 2011, 133, 071009.	0.6	69
24	A Tissue Level Tolerance Criterion for Living Brain Developed with an In Vitro Model of Traumatic Mechanical Loading. , 0, , .		62
25	Monitoring Hippocampus Electrical Activity In Vitro on an Elastically Deformable Microelectrode Array. Journal of Neurotrauma, 2009, 26, 1135-1145.	1.7	61
26	Viscoelastic Properties of the Rat Brain in the Sagittal Plane: Effects of Anatomical Structure and Age. Annals of Biomedical Engineering, 2012, 40, 70-78.	1.3	61
27	Bioorthogonal chemical imaging of metabolic activities in live mammalian hippocampal tissues with stimulated Raman scattering. Scientific Reports, 2016, 6, 39660.	1.6	60
28	A Multiscale Approach to Blast Neurotrauma Modeling: Part II: Methodology for Inducing Blast Injury to in vitro Models. Frontiers in Neurology, 2012, 3, 23.	1.1	59
29	Dynamic Mechanical Stretch of Organotypic Brain Slice Cultures Induces Differential Genomic Expression: Relationship to Mechanical Parameters. Journal of Biomechanical Engineering, 2000, 122, 224-230.	0.6	55
30	Blood-Brain Barrier Dysfunction after Primary Blast Injuryin vitro. Journal of Neurotrauma, 2013, 30, 1652-1663.	1.7	54
31	A Multiscale Approach to Blast Neurotrauma Modeling: Part I â€“ Development of Novel Test Devices for in vivo and in vitro Blast Injury Models. Frontiers in Neurology, 2012, 3, 46.	1.1	49
32	Significant Head Accelerations Can Influence Immediate Neurological Impairments in a Murine Model of Blast-Induced Traumatic Brain Injury. Journal of Biomechanical Engineering, 2014, 136, 091004.	0.6	49
33	Stretch-induced injury in organotypic hippocampal slice cultures reproduces in vivo post-traumatic neurodegeneration: role of glutamate receptors and voltage-dependent calcium channels. Journal of Neurochemistry, 2007, 101, 434-447.	2.1	48
34	Encapsulating Elastically Stretchable Neural Interfaces: Yield, Resolution, and Recording/Stimulation of Neural Activity. Advanced Functional Materials, 2012, 22, 640-651.	7.8	45
35	Fixed negative charge and the Donnan effect: aÂdescription of the driving forces associated with brain tissue swelling andÃoedema. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 585-603.	1.6	44
36	An organotypic uniaxial strain model using microfluidics. Lab on A Chip, 2013, 13, 432-442.	3.1	44

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37	Region-Specific Tolerance Criteria for the Living Brain. , 0, , .		44
38	Isolated Primary Blast Alters Neuronal Function with Minimal Cell Death in Organotypic Hippocampal Slice Cultures. Journal of Neurotrauma, 2014, 31, 1202-1210.	1.7	43
39	Experimental Mild Traumatic Brain Injury Induces Functional Alteration of the Developing Hippocampus. Journal of Neurophysiology, 2010, 103, 499-510.	0.9	42
40	Why Is CA3 More Vulnerable Than CA1 in Experimental Models of Controlled Cortical Impact-Induced Brain Injury?. Journal of Neurotrauma, 2013, 30, 1521-1530.	1.7	41
41	Neuroprotection by genipin against reactive oxygen and reactive nitrogen species-mediated injury in organotypic hippocampal slice cultures. Brain Research, 2014, 1543, 308-314.	1.1	38
42	Viscoelastic Properties of the P17 and Adult Rat Brain From Indentation in the Coronal Plane. Journal of Biomechanical Engineering, 2013, 135, 114507.	0.6	37
43	L -Arginyl-3,4-Spermidine is neuroprotective in several in vitro models of neurodegeneration and in vivo ischaemia without suppressing synaptic transmission. British Journal of Pharmacology, 2002, 137, 1255-1268.	2.7	36
44	An Unusual Cell Penetrating Peptide Identified Using a Plasmid Display-Based Functional Selection Platform. ACS Chemical Biology, 2011, 6, 484-491.	1.6	36
45	Continuum Modeling of Biological Tissue Growth by Cell Division, and Alteration of Intracellular Osmolytes and Extracellular Fixed Charge Density. Journal of Biomechanical Engineering, 2009, 131, 101001.	0.6	35
46	Brain-on-a-chip microsystem for investigating traumatic brain injury: Axon diameter and mitochondrial membrane changes play a significant role in axonal response to strain injuries. Technology, 2014, 02, 106-117.	1.4	32
47	Alterations in Hippocampal Network Activity afterIn VitroTraumatic Brain Injury. Journal of Neurotrauma, 2015, 32, 1011-1019.	1.7	32
48	An experimental study on the stiffness of size-isolated microbubbles using atomic force microscopy. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 524-534.	1.7	31
49	Non-ideal effects in indentation testing of soft tissues. Biomechanics and Modeling in Mechanobiology, 2014, 13, 573-584.	1.4	30
50	TAT Is Not Capable of Transcellular Delivery Across an Intact Endothelial Monolayer In Vitro. Annals of Biomedical Engineering, 2011, 39, 394-401.	1.3	29
51	Primary blast injury causes cognitive impairments and hippocampal circuit alterations. Experimental Neurology, 2016, 283, 16-28.	2.0	29
52	Isolated Primary Blast Inhibits Long-Term Potentiation in Organotypic Hippocampal Slice Cultures. Journal of Neurotrauma, 2016, 33, 652-661.	1.7	29
53	Primary Blast Exposure Increases Hippocampal Vulnerability to Subsequent Exposure: Reducing Long-Term Potentiation. Journal of Neurotrauma, 2016, 33, 1901-1912.	1.7	29
54	Repeated Primary Blast Injury Causes Delayed Recovery, but not Additive Disruption, in an In Vitro Bloodâ€“Brain Barrier Model. Journal of Neurotrauma, 2014, 31, 951-960.	1.7	28

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55	Primary Blast Injury Depressed Hippocampal Long-Term Potentiation through Disruption of Synaptic Proteins. Journal of Neurotrauma, 2017, 34, 1063-1073.	1.7	28
56	TATâ€mediated intracellular protein delivery to primary brain cells is dependent on glycosaminoglycan expression. Biotechnology and Bioengineering, 2009, 104, 10-19.	1.7	25
57	Mechanics of cell growth. Mechanics Research Communications, 2012, 42, 118-125.	1.0	23
58	Vertically aligned carbon nanofiber as nano-neuron interface for monitoring neural function. Nanomedicine: Nanotechnology, Biology, and Medicine, 2012, 8, 419-423.	1.7	22
59	Functional tolerance to mechanical deformation developed from organotypic hippocampal slice cultures. Biomechanics and Modeling in Mechanobiology, 2015, 14, 561-575.	1.4	22
60	Memantine Reduced Cell Death, Astrogliosis, and Functional Deficits in an in vitro Model of Repetitive Mild Traumatic Brain Injury. Journal of Neurotrauma, 2017, 34, 934-942.	1.7	22
61	Increased delivery of TAT across an endothelial monolayer following ischemic injury. Neuroscience Letters, 2010, 486, 1-4.	1.0	20
62	GPR30 activation is neither necessary nor sufficient for acute neuroprotection by 17Î²-estradiol after an ischemic injury in organotypic hippocampal slice cultures. Brain Research, 2014, 1563, 131-137.	1.1	19
63	Acute vitreoretinal trauma and inflammation after traumatic brain injury in mice. Annals of Clinical and Translational Neurology, 2018, 5, 240-251.	1.7	19
64	Bioeffective Ultrasound at Very Low Doses: Reversible Manipulation of Neuronal Cell Morphology and Function in Vitro. , 2009, , .		18
65	Electrophysiological and Pathological Characterization of the Period of Heightened Vulnerability to Repetitive Injury in anin VitroStretch Model. Journal of Neurotrauma, 2017, 34, 914-924.	1.7	18
66	In Vitro Models for Biomechanical Studies of Neural Tissues. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2011, , 247-285.	0.7	16
67	A Combination Therapy of 17Î²-Estradiol and Memantine Is More Neuroprotective Than Monotherapies in an Organotypic Brain Slice Culture Model of Traumatic Brain Injury. Journal of Neurotrauma, 2015, 32, 1361-1368.	1.7	16
68	Bifunctional chimeric fusion proteins engineered for DNA delivery: Optimization of the protein to DNA ratio. Biochimica Et Biophysica Acta - General Subjects, 2009, 1790, 198-207.	1.1	15
69	Strong Correlation of Genome-Wide Expression after Traumatic Brain InjuryIn VitroandIn VivoImplicates a Role for SORLA. Journal of Neurotrauma, 2017, 34, 97-108.	1.7	15
70	Phosphodiesterase-4 inhibition restored hippocampal long term potentiation after primary blast. Experimental Neurology, 2017, 293, 91-100.	2.0	15
71	Mechanical Stretch of High Magnitude Provokes Axonal Injury, Elongation of Paranodal Junctions, and Signaling Alterations in Oligodendrocytes. Molecular Neurobiology, 2019, 56, 4231-4248.	1.9	14
72	Direct Observation of Low Strain, High Rate Deformation of Cultured Brain Tissue During Primary Blast. Annals of Biomedical Engineering, 2020, 48, 1196-1206.	1.3	13

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73	Intracerebroventricular administration of chondroitinase ABC reduces acute edema after traumatic brain injury in mice. BMC Research Notes, 2016, 9, 160.	0.6	12
74	Chondroitinase ABC Reduces Brain Tissue SwellingIn Vitro. Journal of Neurotrauma, 2011, 28, 2277-2285.	1.7	11
75	Cypin: A novel target for traumatic brain injury. Neurobiology of Disease, 2018, 119, 13-25.	2.1	11
76	Modeling of Active Transmembrane Transport in a Mixture Theory Framework. Annals of Biomedical Engineering, 2010, 38, 1801-1814.	1.3	9
77	Predicting changes in cortical electrophysiological function after in vitro traumatic brain injury. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1033-1044.	1.4	9
78	Stretchable microelectrode arrays a tool for discovering mechanisms of functional deficits underlying traumatic brain injury and interfacing neurons with neuroprosthetics. , 2006, Suppl, 6732-5.		8
79	Quantification of functional aalterations after in vitro traumatic brain injury. , 2009, 2009, 1135-8.		8
80	Attenuation of Astrocyte Activation by TAT-Mediated Delivery of a Peptide JNK Inhibitor. Journal of Neurotrauma, 2011, 28, 1219-1228.	1.7	8
81	Simulating cerebral edema and delayed fatality after traumatic brain injury using triphasic swelling biomechanics. Traffic Injury Prevention, 2019, 20, 820-825.	0.6	7
82	Viscoelastic characterization of porcine brain tissue mechanical properties under indentation loading. Brain Multiphysics, 2021, 2, 100041.	0.8	7
83	Hyaluronidase reduced edema after experimental traumatic brain injury. Journal of Cerebral Blood Flow and Metabolism, 2020, 40, 2026-2037.	2.4	6
84	Bioeffects of low dose ultrasound on neuronal cell function. , 2009, , .		5
85	A plasmid display platform for the selection of peptides exhibiting a functional cellâ€penetrating phenotype. Biotechnology Progress, 2010, 26, 1796-1800.	1.3	5
86	Prediction of probability of fatality due to brain injury in traffic accidents. Traffic Injury Prevention, 2019, 20, S27-S31.	0.6	5
87	Region-Dependent Viscoelastic Properties of Human Brain Tissue Under Large Deformations. Annals of Biomedical Engineering, 2022, 50, 1452-1460.	1.3	5
88	Characterisation of a novel class of polyamine-based neuroprotective compounds. Naunyn-Schmiedeberg's Archives of Pharmacology, 2003, 368, 216-224.	1.4	4
89	Neural sensing of electrical activity with stretchable microelectrode arrays. , 2009, 2009, 4210-3.		4
90	Modeling traumatic brain injury in vitro: Functional changes in the absence of cell death. , 2009, , .		4

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91	Recent advancements in inÂvitro models of traumatic brain injury. Current Opinion in Biomedical Engineering, 2022, 23, 100396.	1.8	3
92	Monitoring of Traumatically Injured Organotypic Hippocampal Cultures with Stretchable Microelectrode Arrays. Materials Research Society Symposia Proceedings, 2006, 926, 1.	0.1	1
93	Advances in Encapsulating Elastically Stretchable Microelectrode Arrays. Materials Research Society Symposia Proceedings, 2007, 1009, 1.	0.1	1
94	Interleukin-1beta does not affect the energy metabolism of rat organotypic hippocampal-slice cultures. Neuroscience Letters, 2012, 508, 114-118.	1.0	1
95	Delivery of fluorescent dextrans through the ultrasound-induced blood-brain barrier opening in mice. , 2008, , .		0
96	8.12: Presentation session: Brain injuries and neuro-regeneration panel: “Basic research to reduce the socioeconomic costs of traumatic brain injury”. , 2010, , .		0
97	Activated astrocytes and TAT transduction after in vitro traumatic mechanical injury. , 2010, , .		0
98	Permeability of in vitro blood-brain barrier models. , 2010, , .		0
99	Vertically aligned carbon nanofiber neural chip for interfacing with neurological system. , 2010, , .		0
100	An experimental study on the apparent stiffness of size-isolated microbubbles used for blood-brain barrier opening applications. , 2012, , .		0
101	Forward/editorial to accompany CNS injury special issue. Clinical Biomechanics, 2019, 64, 1.	0.5	0