Joseph S Beckman

List of Publications by Year
in descending order

92 papers	21,272 citations	41323 49 h-index	45285 90 g-index
95 all docs	95 docs citations	95 times ranked	17791 citing authors

#	Article	IF	Citations
1	Nitric Oxide and Peroxynitrite in Health and Disease. Physiological Reviews, 2007, 87, 315-424.	13.1	5,209
2	Peroxynitrite-induced membrane lipid peroxidation: The cytotoxic potential of superoxide and nitric oxide. Archives of Biochemistry and Biophysics, 1991, 288, 481-487.	1.4	2,105
3	Peroxynitrite-mediated tyrosine nitration catalyzed by superoxide dismutase. Archives of Biochemistry and Biophysics, 1992, 298, 431-437.	1.4	1,516
4	Widespread Peroxynitrite-Mediated Damage in Alzheimerâ€™s Disease. Journal of Neuroscience, 1997, 17, 2653-2657.	1.7	1,216
5	Peroxynitrite formation from macrophage-derived nitric oxide. Archives of Biochemistry and Biophysics, 1992, 298, 446-451.	1.4	1,128
6	Oxidative Damage and Tyrosine Nitration from Peroxynitrite. Chemical Research in Toxicology, 1996, 9, 836-844.	1.7	963
7	Kinetics of superoxide dismutase- and iron-catalyzed nitration of phenolics by peroxynitrite. Archives of Biochemistry and Biophysics, 1992, 298, 438-445.	1.4	784
8	ALS, SOD and peroxynitrite. Nature, 1993, 364, 584-584.	13.7	779
9	Induction of Nitric Oxide -- Dependent Apoptosis in Motor Neurons by Zinc-Deficient Superoxide Dismutase. Science, 1999, 286, 2498-2500.	6.0	563
10	Decreased Zinc Affinity of Amyotrophic Lateral Sclerosisâ€Associated Superoxide Dismutase Mutants Leads to Enhanced Catalysis of Tyrosine Nitration by Peroxynitrite. Journal of Neurochemistry, 1997, 69, 1936-1944.	2.1	418
11	Superoxide Reacts with Nitric Oxide to Nitrate Tyrosine at Physiological pH via Peroxynitrite. Journal of Biological Chemistry, 2000, 275, 32460-32466.	1.6	350
12	Nitric Oxide and Superoxide Contribute to Motor Neuron Apoptosis Induced by Trophic Factor Deprivation. Journal of Neuroscience, 1998, 18, 923-931.	1.7	327
13	Mitochondrial Dysfunction in SOD1^{G93A}-Bearing Astrocytes Promotes Motor Neuron Degeneration: Prevention by Mitochondrial-Targeted Antioxidants. Journal of Neuroscience, 2008, 28, 4115-4122.	1.7	285
14	A role for astrocytes in motor neuron loss in amyotrophic lateral sclerosis. Brain Research Reviews, 2004, 47, 263-274.	9.1	274
15	Peroxynitriteâ€Induced Cytotoxicity in PC12 Cells: Evidence for an Apoptotic Mechanism Differentially Modulated by Neurotrophic Factors. Journal of Neurochemistry, 1995, 65, 1543-1550.	2.1	269
16	Superoxide Dismutase Catalyzes Nitration of Tyrosines by Peroxynitrite in the Rod and Head Domains of Neurofilamentâ€L. Journal of Neurochemistry, 1997, 69, 1945-1953.	2.1	226
17	Astrocytic production of nerve growth factor in motor neuron apoptosis: implications for amyotrophic lateral sclerosis. Journal of Neurochemistry, 2004, 89, 464-473.	2.1	200
18	On the pH-dependent yield of hydroxyl radical products from peroxynitrite. Free Radical Biology and Medicine, 1994, 16, 331-338.	1.3	183

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19	Increased glutathione biosynthesis by Nrf2 activation in astrocytes prevents p75NTR-dependent motor neuron apoptosis. Journal of Neurochemistry, 2006, 97, 687-696.	2.1	173
20	Superoxide dismutase and the death of motoneurons in ALS. Trends in Neurosciences, 2001, 24, S15-S20.	4.2	171
21	Phenotypically aberrant astrocytes that promote motoneuron damage in a model of inherited amyotrophic lateral sclerosis. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18126-18131.	3.3	167
22	Nitric Oxide-Dependent Production of cGMP Supports the Survival of Rat Embryonic Motor Neurons Cultured with Brain-Derived Neurotrophic Factor. Journal of Neuroscience, 1998, 18, 3708-3714.	1.7	161
23	Peroxynitrite triggers a phenotypic transformation in spinal cord astrocytes that induces motor neuron apoptosis. Journal of Neuroscience Research, 2002, 67, 21-29.	1.3	161
24	Oral Treatment with CuII(atsm) Increases Mutant SOD1 In Vivo but Protects Motor Neurons and Improves the Phenotype of a Transgenic Mouse Model of Amyotrophic Lateral Sclerosis. Journal of Neuroscience, 2014, 34, 8021-8031.	1.7	161
25	Ischaemic injury mediator. Nature, 1990, 345, 27-28.	13.7	145
26	Extracellular ATP and the P2X7receptor in astrocyte-mediated motor neuron death: implications for amyotrophic lateral sclerosis. Journal of Neuroinflammation, 2010, 7, 33.	3.1	135
27	Copper delivery to the CNS by CuATSM effectively treats motor neuron disease in SODG93A mice co-expressing the Copper-Chaperone-for-SOD. Neurobiology of Disease, 2016, 89, 1-9.	2.1	126
28	Structural Characterization of Zinc-deficient Human Superoxide Dismutase and Implications for ALS. Journal of Molecular Biology, 2007, 373, 877-890.	2.0	122
29	Nitration of Hsp90 induces cell death. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1102-11.	3.3	122
30	Superoxide dismutase and the death of motoneurons in ALS. Trends in Neurosciences, 2001, 24, 15-20.	4.2	118
31	Post-paralysis tyrosine kinase inhibition with masitinib abrogates neuroinflammation and slows disease progression in inherited amyotrophic lateral sclerosis. Journal of Neuroinflammation, 2016, 13, 177.	3.1	116
32	Mitochondrial Superoxide Production and Nuclear Factor Erythroid 2-Related Factor 2 Activation in p75 Neurotrophin Receptor-Induced Motor Neuron Apoptosis. Journal of Neuroscience, 2007, 27, 7777-7785.	1.7	110
33	The â€˜mitoflashâ€™ probe cpYFP does not respond to superoxide. Nature, 2014, 514, E12-E14.	13.7	109
34	Nitric Oxide-Mediated Oxidative Damage and the Progressive Demise of Motor Neurons in ALS. Neurotoxicity Research, 2012, 22, 251-264.	1.3	103
35	Astrocyte activation by fibroblast growth factor-1 and motor neuron apoptosis: implications for amyotrophic lateral sclerosis. Journal of Neurochemistry, 2005, 93, 38-46.	2.1	101
36	Mast cells and neutrophils mediate peripheral motor pathway degeneration in ALS. JCI Insight, 2018, 3, .	2.3	101

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37	Chapter 19 Role of endogenous nitric oxide and peroxynitrite formation in the survival and death of motor neurons in culture. Progress in Brain Research, 1998, 118, 269-280.	0.9	81
38	Evidence for peroxynitrite as a signaling molecule in flow-dependent activation of c-Jun NH2-terminal kinase. American Journal of Physiology - Heart and Circulatory Physiology, 1999, 277, H1647-H1653.	1.5	81
39	Ab Initioand NMR Study of Peroxynitrite and Peroxynitrous Acid:Â Important Biological Oxidants. The Journal of Physical Chemistry, 1996, 100, 15087-15095.	2.9	80
40	Crystal structure of peroxynitrite-modified bovine Cu,Zn superoxide dismutase. Archives of Biochemistry and Biophysics, 1992, 299, 350-355.	1.4	75
41	Cull(atsm) improves the neurological phenotype and survival of SOD1G93A mice and selectively increases enzymatically active SOD1 in the spinal cord. Scientific Reports, 2017, 7, 42292.	1.6	70
42	Characterization and Identification of Dityrosine Cross-Linked Peptides Using Tandem Mass Spectrometry. Analytical Chemistry, 2017, 89, 6136-6145.	3.2	70
43	Complexity of Astrocyte-Motor Neuron Interactions in Amyotrophic Lateral Sclerosis. Neurodegenerative Diseases, 2005, 2, 139-146.	0.8	69
44	Evidence for mast cells contributing to neuromuscular pathology in an inherited model of ALS. JCI Insight, 2017, 2, .	2.3	68
45	A Role for Copper in the Toxicity of Zinc-Deficient Superoxide Dismutase to Motor Neurons in Amyotrophic Lateral Sclerosis. Antioxidants and Redox Signaling, 2009, 11, 1627-1639.	2.5	65
46	Urate produced during hypoxia protects heart proteins from peroxynitrite-mediated protein nitration. Free Radical Biology and Medicine, 2002, 33, 1243-1249.	1.3	60
47	Triuret: a novel product of peroxynitrite-mediated oxidation of urate. Archives of Biochemistry and Biophysics, 2004, 423, 213-217.	1.4	59
48	Sequencing Grade Tandem Mass Spectrometry for Topâ€“Down Proteomics Using Hybrid Electron Capture Dissociation Methods in a Benchtop Orbitrap Mass Spectrometer. Analytical Chemistry, 2018, 90, 10819-10827.	3.2	54
49	Prevention of Peroxynitrite-induced Apoptosis of Motor Neurons and PC12 Cells by Tyrosine-containing Peptides. Journal of Biological Chemistry, 2007, 282, 6324-6337.	1.6	53
50	Exploring ECD on a Benchtop Q Exactive Orbitrap Mass Spectrometer. Journal of Proteome Research, 2018, 17, 926-933.	1.8	52
51	Understanding peroxynitrite biochemistry and its potential for treating human diseases. Archives of Biochemistry and Biophysics, 2009, 484, 114-116.	1.4	51
52	Phenotypic transition of microglia into astrocyte-like cells associated with disease onset in a model of inherited ALS. Frontiers in Cellular Neuroscience, 2013, 7, 274.	1.8	50
53	Emergence of Microglia Bearing Senescence Markers During Paralysis Progression in a Rat Model of Inherited ALS. Frontiers in Aging Neuroscience, 2019, 11, 42.	1.7	50
54	Direct Determination of Antibody Chain Pairing by Top-down and Middle-down Mass Spectrometry Using Electron Capture Dissociation and Ultraviolet Photodissociation. Analytical Chemistry, 2020, 92, 766-773.	3.2	50

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55	Liposome-delivered superoxide dismutase prevents nitric oxideâ€“dependent motor neuron death induced by trophic factor withdrawal. Free Radical Biology and Medicine, 2000, 28, 437-446.	1.3	49
56	Protection by dietary zinc in ALS mutant G93A SOD transgenic mice. Neuroscience Letters, 2005, 379, 42-46.	1.0	48
57	P2X7 receptorâ€induced death of motor neurons by a peroxynitrite/<scp>FAS</scp>â€dependent pathway. Journal of Neurochemistry, 2013, 126, 382-388.	2.1	46
58	Diapocynin and apocynin administration fails to significantly extend survival in G93A SOD1 ALS mice. Neurobiology of Disease, 2012, 45, 137-144.	2.1	44
59	Modulation of p75NTR-dependent motor neuron death by a small non-peptidyl mimetic of the neurotrophin loop 1 domain. European Journal of Neuroscience, 2006, 24, 1575-1580.	1.2	43
60	Schwann cells orchestrate peripheral nerve inflammation through the expression of CSF1, ILâ€34, and SCF in amyotrophic lateral sclerosis. Glia, 2020, 68, 1165-1181.	2.5	42
61	Peroxynitrite transforms nerve growth factor into an apoptotic factor for motor neurons. Free Radical Biology and Medicine, 2006, 41, 1632-1644.	1.3	41
62	Cu,Zn-Superoxide Dismutase Increases Toxicity of Mutant and Zinc-deficient Superoxide Dismutase by Enhancing Protein Stability*. Journal of Biological Chemistry, 2010, 285, 33885-33897.	1.6	37
63	Comparative Structural Analysis of 20S Proteasome Ortholog Protein Complexes by Native Mass Spectrometry. ACS Central Science, 2020, 6, 573-588.	5.3	37
64	Aggregation of ALS mutant superoxide dismutase expressed in Escherichia coli. Free Radical Biology and Medicine, 2004, 36, 911-918.	1.3	36
65	Expression of zinc-deficient human superoxide dismutase in Drosophila neurons produces a locomotor defect linked to mitochondrial dysfunction. Neurobiology of Aging, 2013, 34, 2322-2330.	1.5	36
66	Top-Down Characterization of Denatured Proteins and Native Protein Complexes Using Electron Capture Dissociation Implemented within a Modified Ion Mobility-Mass Spectrometer. Analytical Chemistry, 2020, 92, 3674-3681.	3.2	35
67	Antioxidants Inhibit ATP-Sensitive Potassium Channels in Cerebral Arterioles. Stroke, 1998, 29, 817-823.	1.0	33
68	CCS knockout mice establish an alternative source of copper for SOD in ALS. Free Radical Biology and Medicine, 2002, 33, 1433-1435.	1.3	31
69	Parsing the Effects of Nitric Oxide, S -Nitrosothiols, and Peroxynitrite on Inducible Nitric Oxide Synthaseâ€“Dependent Cardiac Myocyte Apoptosis. Circulation Research, 1999, 85, 870-871.	2.0	28
70	Electronâ€capture dissociation (ECD), collisionâ€induced dissociation (CID) and ECD/CID in a linear radioâ€frequencyâ€free magnetic cell. Rapid Communications in Mass Spectrometry, 2009, 23, 3028-3030.	0.7	28
71	Genetic Incorporation of Two Mutually Orthogonal Bioorthogonal Amino Acids That Enable Efficient Protein Dual-Labeling in Cells. ACS Chemical Biology, 2021, 16, 2612-2622.	1.6	27
72	Electron Capture, Collision-Induced, and Electron Capture-Collision Induced Dissociation in Q-TOF. Journal of the American Society for Mass Spectrometry, 2011, 22, 607-611.	1.2	25

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73	Measuring copper and zinc superoxide dismutase from spinal cord tissue using electrospray mass spectrometry. Analytical Biochemistry, 2011, 415, 52-58.	1.1	25
74	Stimulation of nerve growth factor expression in astrocytes by peroxynitrite. In Vivo, 2004, 18, 269-74.	0.6	25
75	Neuroprotective effect of CuATSM on neurotoxin-induced motor neuron loss in an ALS mouse model. Neurobiology of Disease, 2019, 130, 104495.	2.1	24
76	Using Theoretical Protein Isotopic Distributions to Parse Small-Mass-Difference Post-Translational Modifications via Mass Spectrometry. Journal of the American Society for Mass Spectrometry, 2013, 24, 115-124.	1.2	22
77	Cyclic guanosine 5â€² monophosphate (GMP) prevents expression of neuronal nitric oxide synthase and apoptosis in motor neurons deprived of trophic factors in rats. Neuroscience Letters, 2002, 326, 201-205.	1.0	21
78	Electron Capture Dissociation of Sodium-Adducted Peptides on a Modified Quadrupole/Time-of-Flight Mass Spectrometer. Journal of the American Society for Mass Spectrometry, 2015, 26, 2096-2104.	1.2	21
79	ECD of Tyrosine Phosphorylation in a Triple Quadrupole Mass Spectrometer with a Radio-Frequency-Free Electromagnetostatic Cell. Journal of the American Society for Mass Spectrometry, 2014, 25, 1730-1738.	1.2	19
80	Nitration and Glycation Turn Mature NGF into a Toxic Factor for Motor Neurons: A Role for p75^{NTR}and RAGE Signaling in ALS. Antioxidants and Redox Signaling, 2018, 28, 1587-1602.	2.5	18
81	Strategies to protect against age-related mitochondrial decay: Do natural products and their derivatives help?. Free Radical Biology and Medicine, 2022, 178, 330-346.	1.3	17
82	Capillary Zone Electrophoresis-Electron-Capture Collision-Induced Dissociation on a Quadrupole Time-of-Flight Mass Spectrometer for Top-Down Characterization of Intact Proteins. Journal of the American Society for Mass Spectrometry, 2021, 32, 1361-1369.	1.2	14
83	Improved Protein and PTM Characterization with a Practical Electron-Based Fragmentation on Q-TOF Instruments. Journal of the American Society for Mass Spectrometry, 2021, 32, 2081-2091.	1.2	14
84	Enhanced Top-Down Protein Characterization with Electron Capture Dissociation and Cyclic Ion Mobility Spectrometry. Analytical Chemistry, 2022, 94, 3888-3896.	3.2	14
85	CD34 Identifies a Subset of Proliferating Microglial Cells Associated with Degenerating Motor Neurons in ALS. International Journal of Molecular Sciences, 2019, 20, 3880.	1.8	9
86	Nanobody assemblies with fully flexible topology enabled by genetically encoded tetrazine amino acids. Science Advances, 2022, 8, eabm6909.	4.7	7
87	Imidazole catalyzes chlorination by unreactive primary chloramines. Free Radical Biology and Medicine, 2015, 82, 167-178.	1.3	5
88	Ligand-independent activation of the P2X7 receptor by Hsp90 inhibition stimulates motor neuron apoptosis. Experimental Biology and Medicine, 2019, 244, 901-914.	1.1	5
89	Peroxynitrite and injury to the vasculature and central nervous system in stroke and neurodegeneration. , 2002, , 23-46.		1
90	Rust never sleeps: The continuing story of the Iron Bolt. Free Radical Biology and Medicine, 2018, 124, 353-357.	1.3	1

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91	Nitric Oxide, Peroxynitrite and Ageing. , 2002, , 54-83.		0
92	The Reactions of Nitric Oxide with Superoxide in Cerebral Ischemic Injury.. Nosotchu, 1994, 16, 318-328.	0.0	0