

Eszter Farkas

List of Publications by Year in descending order

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94
papers

6,494
citations

71102

41
h-index

69250

77
g-index

98
all docs

98
docs citations

98
times ranked

7254
citing authors

#	ARTICLE	IF	CITATIONS
1	Cerebral microvascular pathology in aging and Alzheimer's disease. Progress in Neurobiology, 2001, 64, 575-611.	5.7	968
2	Permanent, bilateral common carotid artery occlusion in the rat: A model for chronic cerebral hypoperfusion-related neurodegenerative diseases. Brain Research Reviews, 2007, 54, 162-180.	9.0	606
3	The continuum of spreading depolarizations in acute cortical lesion development: Examining Leão's legacy. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 1571-1594.	4.3	297
4	Recording, analysis, and interpretation of spreading depolarizations in neurointensive care: Review and recommendations of the COSBID research group. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 1595-1625.	4.3	255
5	Vascular dysfunction in the pathogenesis of Alzheimer's disease – A review of endothelium-mediated mechanisms and ensuing vicious circles. Neurobiology of Disease, 2015, 82, 593-606.	4.4	219
6	Nicotinamide mononucleotide (NMN) supplementation rescues cerebrovascular endothelial function and neurovascular coupling responses and improves cognitive function in aged mice. Redox Biology, 2019, 24, 101192.	9.0	181
7	Experimental cerebral hypoperfusion induces white matter injury and microglial activation in the rat brain. Acta Neuropathologica, 2004, 108, 57-64.	7.7	160
8	Treatment with the mitochondrial-targeted antioxidant peptide <sc>SS</sc>1 rescues neurovascular coupling responses and cerebrovascular endothelial function and improves cognition in aged mice. Aging Cell, 2018, 17, e12731.	6.7	128
9	<sc>IGF</sc>1 deficiency impairs neurovascular coupling in mice: implications for cerebrovascular aging. Aging Cell, 2015, 14, 1034-1044.	6.7	121
10	Nrf2 deficiency in aged mice exacerbates cellular senescence promoting cerebrovascular inflammation. GeroScience, 2018, 40, 513-521.	4.6	114
11	Periaqueductal gray matter input to cardiac-related sympathetic premotor neurons. Brain Research, 1998, 792, 179-192.	2.2	113
12	Nrf2 Deficiency Exacerbates Obesity-Induced Oxidative Stress, Neurovascular Dysfunction, Blood-Brain Barrier Disruption, Neuroinflammation, Amyloidogenic Gene Expression, and Cognitive Decline in Mice, Mimicking the Aging Phenotype. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2018, 73, 853-863.	3.6	111
13	Pharmacologically-Induced Neurovascular Uncoupling is Associated with Cognitive Impairment in Mice. Journal of Cerebral Blood Flow and Metabolism, 2015, 35, 1871-1881.	4.3	105
14	Single-cell RNA sequencing identifies senescent cerebrovascular endothelial cells in the aged mouse brain. GeroScience, 2020, 42, 429-444.	4.6	102
15	Resveratrol preserves cerebrovascular density and cognitive function in aging mice. Frontiers in Aging Neuroscience, 2009, 1, 4.	3.4	101
16	Nicotinamide mononucleotide (NMN) treatment attenuates oxidative stress and rescues angiogenic capacity in aged cerebrovascular endothelial cells: a potential mechanism for the prevention of vascular cognitive impairment. GeroScience, 2019, 41, 619-630.	4.6	97
17	Microglia modulate blood flow, neurovascular coupling, and hypoperfusion via purinergic actions. Journal of Experimental Medicine, 2022, 219, .	8.5	94
18	Age-related microvascular degeneration in the human cerebral periventricular white matter. Acta Neuropathologica, 2006, 111, 150-157.	7.7	88

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19	Diazoxide and dimethyl sulphoxide prevent cerebral hypoperfusion-related learning dysfunction and brain damage after carotid artery occlusion. <i>Brain Research</i> , 2004, 1008, 252-260.	2.2	86
20	Traumatic brain injury-induced autoregulatory dysfunction and spreading depression-related neurovascular uncoupling: Pathomechanisms, perspectives, and therapeutic implications. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2016, 311, H1118-H1131.	3.2	85
21	Nicotinamide mononucleotide (NMN) supplementation promotes neurovascular rejuvenation in aged mice: transcriptional footprint of SIRT1 activation, mitochondrial protection, anti-inflammatory, and anti-apoptotic effects. <i>GeroScience</i> , 2020, 42, 527-546.	4.6	85
22	Treatment with the poly(ADP-ribose) polymerase inhibitor PJ-34 improves cerebromicrovascular endothelial function, neurovascular coupling responses and cognitive performance in aged mice, supporting the NAD ⁺ depletion hypothesis of neurovascular aging. <i>GeroScience</i> , 2019, 41, 533-542.	4.6	84
23	Cerebromicrovascular dysfunction predicts cognitive decline and gait abnormalities in a mouse model of whole brain irradiation-induced accelerated brain senescence. <i>GeroScience</i> , 2017, 39, 33-42.	4.6	78
24	Nicotinamide mononucleotide (NMN) supplementation promotes anti-aging miRNA expression profile in the aorta of aged mice, predicting epigenetic rejuvenation and anti-atherogenic effects. <i>GeroScience</i> , 2019, 41, 419-439.	4.6	75
25	Is Vasomotion in Cerebral Arteries Impaired in Alzheimer's Disease?. <i>Journal of Alzheimer's Disease</i> , 2015, 46, 35-53.	2.6	73
26	Local connections between the columns of the periaqueductal gray matter: a case for intrinsic neuromodulation. <i>Brain Research</i> , 1998, 784, 329-336.	2.2	72
27	Demonstration of impaired neurovascular coupling responses in TG2576 mouse model of Alzheimer's disease using functional laser speckle contrast imaging. <i>GeroScience</i> , 2017, 39, 465-473.	4.6	70
28	Periaqueductal gray matter projection to vagal preganglionic neurons and the nucleus tractus solitarius. <i>Brain Research</i> , 1997, 764, 257-261.	2.2	68
29	Role of endothelial NAD ⁺ deficiency in age-related vascular dysfunction. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2019, 316, H1253-H1266.	3.2	68
30	The effect of n-3 polyunsaturated fatty acid-rich diets on cognitive and cerebrovascular parameters in chronic cerebral hypoperfusion. <i>Brain Research</i> , 2002, 947, 166-173.	2.2	67
31	Direct, Live Imaging of Cortical Spreading Depression and Anoxic Depolarisation Using a Fluorescent, Voltage-Sensitive Dye. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2008, 28, 251-262.	4.3	60
32	Similar Ultrastructural Breakdown of Cerebrocortical Capillaries in Alzheimer's Disease, Parkinson's Disease, and Experimental Hypertension: What is the Functional Link?. <i>Annals of the New York Academy of Sciences</i> , 2000, 903, 72-82.	3.8	59
33	Role of age-related alterations of the cerebral venous circulation in the pathogenesis of vascular cognitive impairment. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2019, 316, H1124-H1140.	3.2	56
34	Imaging Reveals the Focal Area of Spreading Depolarizations and a Variety of Hemodynamic Responses in a Rat Microembolic Stroke Model. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2014, 34, 1695-1705.	4.3	54
35	Dietary long chain PUFAs differentially affect hippocampal muscarinic 1 and serotonergic 1A receptors in experimental cerebral hypoperfusion. <i>Brain Research</i> , 2002, 954, 32-41.	2.2	53
36	Multi-modal imaging of anoxic depolarization and hemodynamic changes induced by cardiac arrest in the rat cerebral cortex. <i>NeuroImage</i> , 2010, 51, 734-742.	4.2	53

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37	Cerebral venous congestion promotes blood-brain barrier disruption and neuroinflammation, impairing cognitive function in mice. <i>GeroScience</i> , 2019, 41, 575-589.	4.6	47
38	Are Alzheimer's disease, hypertension, and cerebrocapillary damage related? <i>Neurobiology of Aging</i> , 2000, 21, 235-243.	3.1	45
39	Beta-amyloid peptide-induced blood-brain barrier disruption facilitates T-cell entry into the rat brain. <i>Acta Histochemica</i> , 2003, 105, 115-125.	1.8	45
40	Pharmacologically induced impairment of neurovascular coupling responses alters gait coordination in mice. <i>GeroScience</i> , 2017, 39, 601-614.	4.6	45
41	The effect of pre- and posttreatment with diazoxide on the early phase of chronic cerebral hypoperfusion in the rat. <i>Brain Research</i> , 2006, 1087, 168-174.	2.2	44
42	Simultaneous, live imaging of cortical spreading depression and associated cerebral blood flow changes, by combining voltage-sensitive dye and laser speckle contrast methods. <i>NeuroImage</i> , 2009, 45, 68-74.	4.2	44
43	Pre-treatment and post-treatment with α -tocopherol attenuates hippocampal neuronal damage in experimental cerebral hypoperfusion. <i>European Journal of Pharmacology</i> , 2007, 571, 120-128.	3.5	43
44	Spreading depolarization remarkably exacerbates ischemia-induced tissue acidosis in the young and aged rat brain. <i>Scientific Reports</i> , 2017, 7, 1154.	3.3	41
45	Which Spreading Depolarizations Are Deleterious To Brain Tissue?. <i>Neurocritical Care</i> , 2020, 32, 317-322.	2.4	40
46	Tissue Acidosis Associated with Ischemic Stroke to Guide Neuroprotective Drug Delivery. <i>Biology</i> , 2020, 9, 460.	2.8	40
47	Ageing-related decline in adenosine A1 receptor binding in the rat brain: An autoradiographic study. <i>Journal of Neuroscience Research</i> , 2004, 78, 742-748.	2.9	39
48	Effects of cyclooxygenase (COX) inhibition on memory impairment and hippocampal damage in the early period of cerebral hypoperfusion in rats. <i>European Journal of Pharmacology</i> , 2007, 574, 29-38.	3.5	38
49	Ischemia-induced depolarizations and associated hemodynamic responses in incomplete global forebrain ischemia in rats. <i>Neuroscience</i> , 2014, 260, 217-226.	2.3	38
50	Calcium antagonists decrease capillary wall damage in aging hypertensive rat brain. <i>Neurobiology of Aging</i> , 2001, 22, 299-309.	3.1	37
51	What Should a Clinician Do When Spreading Depolarizations are Observed in a Patient?. <i>Neurocritical Care</i> , 2020, 32, 306-310.	2.4	36
52	The Critical Role of Spreading Depolarizations in Early Brain Injury: Consensus and Contention. <i>Neurocritical Care</i> , 2022, 37, 83-101.	2.4	36
53	High incidence of adverse cerebral blood flow responses to spreading depolarization in the aged ischemic rat brain. <i>Neurobiology of Aging</i> , 2015, 36, 3269-3277.	3.1	34
54	Chronic cerebral hypoperfusion-related neuropathologic changes and compromised cognitive status: Window of treatment. <i>Drugs of Today</i> , 2002, 38, 365.	2.4	34

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55	Dietary fatty acids alter blood pressure, behavior and brain membrane composition of hypertensive rats. <i>Brain Research</i> , 2003, 988, 9-19.	2.2	33
56	Large-conductance Ca^{2+} -activated potassium channels are potently involved in the inverse neurovascular response to spreading depolarization. <i>Neurobiology of Disease</i> , 2018, 119, 41-52.	4.4	31
57	Changes in pro-oxidant and antioxidant enzyme levels during cerebral hypoperfusion in rats. <i>Brain Research</i> , 2010, 1321, 13-19.	2.2	30
58	Effects of early aging and cerebral hypoperfusion on spreading depression in rats. <i>Neurobiology of Aging</i> , 2011, 32, 1707-1715.	3.1	29
59	Microglia alter the threshold of spreading depolarization and related potassium uptake in the mouse brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020, 40, S67-S80.	4.3	29
60	Post-ischemic administration of diazoxide attenuates long-term microglial activation in the rat brain after permanent carotid artery occlusion. <i>Neuroscience Letters</i> , 2005, 387, 168-172.	2.1	28
61	Hydrogen supplemented air inhalation reduces changes of prooxidant enzyme and gap junction protein levels after transient global cerebral ischemia in the rat hippocampus. <i>Brain Research</i> , 2011, 1404, 31-38.	2.2	27
62	Tumor necrosis factor- α increases cerebral blood flow and ultrastructural capillary damage through the release of nitric oxide in the rat brain. <i>Microvascular Research</i> , 2006, 72, 113-119.	2.5	25
63	Impact of aging on spreading depolarizations induced by focal brain ischemia in rats. <i>Neurobiology of Aging</i> , 2014, 35, 2803-2811.	3.1	25
64	Age or ischemia uncouples the blood flow response, tissue acidosis, and direct current potential signature of spreading depolarization in the rat brain. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2017, 313, H328-H337.	3.2	25
65	N,N-Dimethyltryptamine attenuates spreading depolarization and restrains neurodegeneration by sigma-1 receptor activation in the ischemic rat brain. <i>Neuropharmacology</i> , 2021, 192, 108612.	4.1	25
66	Diazoxide and dimethyl sulphoxide alleviate experimental cerebral hypoperfusion-induced white matter injury in the rat brain. <i>Neuroscience Letters</i> , 2005, 373, 195-199.	2.1	24
67	Susceptibility of the cerebral cortex to spreading depolarization in neurological disease states: The impact of aging. <i>Neurochemistry International</i> , 2019, 127, 125-136.	3.8	24
68	Diazoxide preserves hypercapnia-induced arteriolar vasodilation after global cerebral ischemia in piglets. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2005, 289, H368-H373.	3.2	23
69	Advancing age and ischemia elevate the electric threshold to elicit spreading depolarization in the cerebral cortex of young adult rats. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 1763-1775.	4.3	23
70	Preparation of novel tissue acidosis-responsive chitosan drug nanoparticles: Characterization and in vitro release properties of Ca^{2+} channel blocker nimodipine drug molecules. <i>European Journal of Pharmaceutical Sciences</i> , 2018, 123, 79-88.	4.0	23
71	Chitosan nanoparticles release nimodipine in response to tissue acidosis to attenuate spreading depolarization evoked during forebrain ischemia. <i>Neuropharmacology</i> , 2020, 162, 107850.	4.1	23
72	Malignant astrocyte swelling and impaired glutamate clearance drive the expansion of injurious spreading depolarization foci. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2022, 42, 584-599.	4.3	21

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73	Questioning Glutamate Excitotoxicity in Acute Brain Damage: The Importance of Spreading Depolarization. <i>Neurocritical Care</i> , 2022, 37, 11-30.	2.4	18
74	Systemic Effects of Dietary ω -3 PUFA Supplementation Accompany Changes of CNS Parameters in Cerebral Hypoperfusion. <i>Annals of the New York Academy of Sciences</i> , 2002, 977, 77-86.	3.8	17
75	Spreading Depolarization in the Ischemic Brain: Does Aging Have an Impact?. <i>Journals of Gerontology - Series A Biological Sciences and Medical Sciences</i> , 2014, 69, 1363-1370.	3.6	17
76	The impact of dihydropyridine derivatives on the cerebral blood flow response to somatosensory stimulation and spreading depolarization. <i>British Journal of Pharmacology</i> , 2019, 176, 1222-1234.	5.4	17
77	Capillary injury in the ischemic brain of hyperlipidemic, apolipoprotein B-100 transgenic mice. <i>Life Sciences</i> , 2009, 84, 935-939.	4.3	16
78	The Effect of Molecular Weight on the Solubility Properties of Biocompatible Poly(ethylene) Terephthalate / Poly(ethylene) Glycol Block Copolymers. <i>Journal of Polymer Science: Part A: Polymer Chemistry</i> , 2015, 53, 542-552.	4.5	15
79	Contribution of prostanoid signaling to the evolution of spreading depolarization and the associated cerebral blood flow response. <i>Scientific Reports</i> , 2016, 6, 31402.	3.3	13
80	Aging Impairs Cerebrovascular Reactivity at Preserved Resting Cerebral Arteriolar Tone and Vascular Density in the Laboratory Rat. <i>Frontiers in Aging Neuroscience</i> , 2019, 11, 301.	3.4	12
81	Potential of Aminoglycoside Lethality by C-4-Dicarboxylates Requires RpoN in Antibiotic-Tolerant <i>Pseudomonas aeruginosa</i> . <i>Antimicrobial Agents and Chemotherapy</i> , 2019, 63, .	3.2	9
82	An experimental investigation of the biopolymer organization of both recent and fossil sporoderms. <i>Grana</i> , 1993, 32, 40-48.	0.8	6
83	Neuroprotection by Diazoxide in Animal Models for Cerebrovascular Disorders. <i>Vascular Disease Prevention</i> , 2006, 3, 253-263.	0.2	6
84	Systemic administration of l-kynurenine sulfate induces cerebral hypoperfusion transients in adult C57Bl/6 mice. <i>Microvascular Research</i> , 2017, 114, 19-25.	2.5	6
85	The antagonism of prostaglandin FP receptors inhibits the evolution of spreading depolarization in an experimental model of global forebrain ischemia. <i>Neurobiology of Disease</i> , 2020, 137, 104780.	4.4	6
86	Transient Hypoperfusion to Ischemic/Anoxic Spreading Depolarization is Related to Autoregulatory Failure in the Rat Cerebral Cortex. <i>Neurocritical Care</i> , 2022, 37, 112-122.	2.4	6
87	Heart-cutting two-dimensional liquid chromatography coupled to quadrupole-orbitrap high resolution mass spectrometry for determination of N,N-dimethyltryptamine in rat plasma and brain; Method development and application. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , 2020, 191, 113615.	2.8	5
88	Comparative analysis of spreading depolarizations in brain slices exposed to osmotic or metabolic stress. <i>BMC Neuroscience</i> , 2021, 22, 33.	1.9	5
89	Biocompatible poly(ethylene succinate) polyester with molecular weight dependent drug release properties. <i>International Journal of Pharmaceutics</i> , 2022, 618, 121653.	5.2	4
90	Spectral and Multifractal Signature of Cortical Spreading Depolarisation in Aged Rats. <i>Frontiers in Physiology</i> , 2018, 9, 1512.	2.8	2

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91	Astrocyte Ca ²⁺ Waves and Subsequent Non-Synchronized Ca ²⁺ Oscillations Coincide with Arteriole Diameter Changes in Response to Spreading Depolarization. International Journal of Molecular Sciences, 2021, 22, 3442.	4.1	1
92	NMN Rescues Endothelial Function and Neurovascular Coupling, Improving Cognitive Function in Aged Mice. Innovation in Aging, 2020, 4, 121-121.	0.1	1
93	Interaction of obesity and Nrf2 deficiency exacerbates vascular aging: potential role of endothelial senescence. FASEB Journal, 2019, 33, 518.9.	0.5	0
94	Nrf2 deficiency in aged mice exacerbates cellular senescence promoting cerebrovascular inflammation. FASEB Journal, 2019, 33, 518.8.	0.5	0