Donald G Welsh

List of Publications by Year
in descending order

97 papers	3,067 citations	172457 29 h-index	161849 54 g-index
97 all docs	97 docs citations	97 times ranked	2344 citing authors

#	Article	IF	Citations
1	Transient Receptor Potential Channels Regulate Myogenic Tone of Resistance Arteries. Circulation Research, 2002, 90, 248-250.	4.5	463
2	Endothelial and smooth muscle cell conduction in arterioles controlling blood flow. American Journal of Physiology - Heart and Circulatory Physiology, 1998, 274, H178-H186.	3.2	159
3	Leptomeningeal collaterals are associated with modifiable metabolic risk factors. Annals of Neurology, 2013, 74, 241-248.	5.3	147
4	Localized TRPA1 channel Ca ²⁺ signals stimulated by reactive oxygen species promote cerebral artery dilation. Science Signaling, 2015, 8, ra2.	3.6	139
5	Swellingâ€activated cation channels mediate depolarization of rat cerebrovascular smooth muscle by hyposmolarity and intravascular pressure. Journal of Physiology, 2000, 527, 139-148.	2.9	119
6	K_{IR} channels function as electrical amplifiers in rat vascular smooth muscle. Journal of Physiology, 2008, 586, 1147-1160.	2.9	104
7	Spread of vasodilatation and vasoconstriction along feed arteries and arterioles of hamster skeletal muscle. Journal of Physiology, 1999, 516, 283-291.	2.9	103
8	Defining electrical communication in skeletal muscle resistance arteries: a computational approach. Journal of Physiology, 2005, 568, 267-281.	2.9	103
9	Role of myosin light chain kinase and myosin light chain phosphatase in the resistance arterial myogenic response to intravascular pressure. Archives of Biochemistry and Biophysics, 2011, 510, 160-173.	3.0	103
10	Heteromultimeric TRPC6-TRPC7 Channels Contribute to Arginine Vasopressin-Induced Cation Current of A7r5 Vascular Smooth Muscle Cells. Circulation Research, 2006, 98, 1520-1527.	4.5	87
11	Inward rectifying potassium channels facilitate cell-to-cell communication in hamster retractor muscle feed arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 291, H1319-H1328.	3.2	86
12	Identification of L- and T-type Ca²⁺channels in rat cerebral arteries: role in myogenic tone development. American Journal of Physiology - Heart and Circulatory Physiology, 2013, 304, H58-H71.	3.2	75
13	Ca _V 3.2 Channels and the Induction of Negative Feedback in Cerebral Arteries. Circulation Research, 2014, 115, 650-661.	4.5	61
14	Pyrimidine nucleotides suppress KDRcurrents and depolarize rat cerebral arteries by activating Rho kinase. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H1088-H1100.	3.2	60
15	Oxygen induces electromechanical coupling in arteriolar smooth muscle cells: a role for L-type Ca2+ channels. American Journal of Physiology - Heart and Circulatory Physiology, 1998, 274, H2018-H2024.	3.2	55
16	Intravascular pressure augments cerebral arterial constriction by inducing voltage-insensitive Ca²⁺waves. Journal of Physiology, 2010, 588, 3983-4005.	2.9	55
17	Role of EDHF in conduction of vasodilation along hamster cheek pouch arterioles in vivo. American Journal of Physiology - Heart and Circulatory Physiology, 2000, 278, H1832-H1839.	3.2	54
18	NaHCO₃ and KHCO₃ ingestion rapidly increases renal electrolyte excretion in humans. Journal of Applied Physiology, 2000, 88, 540-550.	2.5	53

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19	Muscle Length Directs Sympathetic Nerve Activity and Vasomotor Tone in Resistance Vessels of Hamster Retractor. Circulation Research, 1996, 79, 551-559.	4.5	53
20	Hyposmotic challenge inhibits inward rectifying K+ channels in cerebral arterial smooth muscle cells. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H1085-H1094.	3.2	52
21	Modeling the Role of the Coronary Vasculature During External Field Stimulation. IEEE Transactions on Biomedical Engineering, 2010, 57, 2335-2345.	4.2	49
22	Endothelial Feedback and the Myoendothelial Projection. Microcirculation, 2012, 19, 416-422.	1.8	45
23	CaV1.2/CaV3.x channels mediate divergent vasomotor responses in human cerebral arteries. Journal of General Physiology, 2015, 145, 405-418.	1.9	42
24	Nitric oxide suppresses vascular voltage-gated T-type Ca²⁺ channels through cGMP/PKG signaling. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H279-H285.	3.2	41
25	The Conducted Vasomotor Response: Function, Biophysical Basis, and Pharmacological Control. Annual Review of Pharmacology and Toxicology, 2018, 58, 391-410.	9.4	41
26	Genetic Ablation of Ca _V 3.2 Channels Enhances the Arterial Myogenic Response by Modulating the RyR-BK _{Ca} Axis. Arteriosclerosis, Thrombosis, and Vascular Biology, 2015, 35, 1843-1851.	2.4	39
27	Hypertension attenuates cell-to-cell communication in hamster retractor muscle feed arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H861-H870.	3.2	36
28	Mechanistic basis of differential conduction in skeletal muscle arteries. Journal of Physiology, 2009, 587, 1301-1318.	2.9	34
29	Protein kinase a regulation of T-type Ca2+ channels in rat cerebral arterial smooth muscle. Journal of Cell Science, 2013, 126, 2944-54.	2.0	33
30	Activators of the PKA and PKG pathways attenuate RhoA-mediated suppression of the KDR current in cerebral arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H2654-H2663.	3.2	30
31	Mechanisms of coronary artery depolarization by uridine triphosphate. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 280, H2545-H2553.	3.2	29
32	KIR channels tune electrical communication in cerebral arteries. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 2171-2184.	4.3	29
33	Membrane Lipid-K _{IR} 2.x Channel Interactions Enable Hemodynamic Sensing in Cerebral Arteries. Arteriosclerosis, Thrombosis, and Vascular Biology, 2019, 39, 1072-1087.	2.4	29
34	Perivascular adipose tissue and the dynamic regulation of K_v7 and K_{ir} channels: Implications for resistant hypertension. Microcirculation, 2018, 25, e12434.	1.8	28
35	Electrical communication in branching arterial networks. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 303, H680-H692.	3.2	27
36	Activation of endothelial IK Ca channels underlies NO-dependent myoendothelial feedback. Vascular Pharmacology, 2015, 74, 130-138.	2.1	27

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37	Sympathetic Nerves Inhibit Conducted Vasodilatation Along Feed Arteries during Passive Stretch of Hamster Skeletal Muscle. Journal of Physiology, 2003, 552, 273-282.	2.9	25
38	KMUP-1 activates BKCa channels in basilar artery myocytes via cyclic nucleotide-dependent protein kinases. British Journal of Pharmacology, 2005, 146, 862-871.	5.4	25
39	Less is more: minimal expression of myoendothelial gap junctions optimizes cellâ€“cell communication in virtual arterioles. Journal of Physiology, 2014, 592, 3243-3255.	2.9	24
40	Intercellular Conduction Optimizes Arterial Network Function and Conserves Blood Flow Homeostasis During Cerebrovascular Challenges. Arteriosclerosis, Thrombosis, and Vascular Biology, 2020, 40, 733-750.	2.4	23
41	Role of microprojections in myoendothelial feedback â€“ a theoretical study. Journal of Physiology, 2013, 591, 2795-2812.	2.9	21
42	Role of skeletal muscle in plasma ion and acid-base regulation after NaHCO3 and KHCO3 loading in humans. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 1999, 276, R32-R43.	1.8	20
43	Tâ€Type Ca²⁺ Channels in Cerebral Arteries: Approaches, Hypotheses, and Speculation. Microcirculation, 2013, 20, 299-306.	1.8	18
44	Implications of Î± _v Î² ₃ Integrin Signaling in the Regulation of Ca ²⁺ Waves and Myogenic Tone in Cerebral Arteries. Arteriosclerosis, Thrombosis, and Vascular Biology, 2015, 35, 2571-2578.	2.4	16
45	Caveolae Link Ca _V 3.2 Channels to BK _{Ca} -Mediated Feedback in Vascular Smooth Muscle. Arteriosclerosis, Thrombosis, and Vascular Biology, 2018, 38, 2371-2381.	2.4	16
46	Interplay among distinct Ca 2+ conductances drives Ca 2+ sparks/spontaneous transient outward currents in rat cerebral arteries. Journal of Physiology, 2017, 595, 1111-1126.	2.9	15
47	Differential targeting and signalling of voltageâ€gated Tâ€type Ca_v3.2 and Lâ€type Ca_v1.2 channels to ryanodine receptors in mesenteric arteries. Journal of Physiology, 2018, 596, 4863-4877.	2.9	15
48	Structural analysis of endothelial projections from mesenteric arteries. Microcirculation, 2017, 24, e12330.	1.8	14
49	Reactive Oxygen Species Mediate the Suppression of Arterial Smooth Muscle T-type Ca2+ Channels by Angiotensin II. Scientific Reports, 2018, 8, 3445.	3.3	14
50	The Differential Hypothesis: A Provocative Rationalization of the Conducted Vasomotor Response. Microcirculation, 2010, 17, 226-236.	1.8	12
51	Origins of variation in conducted vasomotor responses. Pflugers Archiv European Journal of Physiology, 2015, 467, 2055-2067.	2.8	11
52	Current perspective on differential communication in small resistance arteriesThis article is part of a Special Issue on Information Transfer in the Microcirculation.. Canadian Journal of Physiology and Pharmacology, 2009, 87, 21-28.	1.4	10
53	Abnormal Lymphatic Channels Detected by T2-Weighted MR Imaging as a Substrate for Ventricular Arrhythmia in HCM. JACC: Cardiovascular Imaging, 2016, 9, 1354-1356.	5.3	10
54	An assessment of K_{IR} channel function in human cerebral arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 316, H794-H800.	3.2	10

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55	Emerging trend in second messenger communication and myoendothelial feedback. Frontiers in Physiology, 2014, 5, 243.	2.8	9
56	Gap Junctions Suppress Electrical but Not [Ca 2+] Heterogeneity in Resistance Arteries. Biophysical Journal, 2014, 107, 2467-2476.	0.5	8
57	Conceptualizing conduction as a pliant electrical response: impact of gap junctions and ion channels. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 319, H1276-H1289.	3.2	7
58	Gestational long-term hypoxia induces metabolomic reprogramming and phenotypic transformations in fetal sheep pulmonary arteries. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2021, 320, L770-L784.	2.9	7
59	A Case for Myoendothelial Gap Junctions. Circulation Research, 2000, 87, 427-428.	4.5	5
60	Inward Rectifier Potassium Channels: Membrane Lipid-Dependent Mechanosensitive Gates in Brain Vascular Cells. Frontiers in Cardiovascular Medicine, 2022, 9, 869481.	2.4	5
61	Defining a role of <scp>NADPH</scp> oxidase in myogenic tone development. Microcirculation, 2022, , e12756.	1.8	5
62	Genetic ablation of smooth muscle K_{IR}2.1 is inconsequential to the function of mouse cerebral arteries. Journal of Cerebral Blood Flow and Metabolism, 2022, 42, 1693-1706.	4.3	5
63	A Holder and Calibration Chamber for Micropressure Measurements. Microvascular Research, 1994, 48, 403-405.	2.5	4
64	Altered distribution of adrenergic constrictor responses contributes to skeletal muscle perfusion abnormalities in metabolic syndrome. Microcirculation, 2017, 24, e12349.	1.8	4
65	KIR channels in the microvasculature: Regulatory properties and the lipid-hemodynamic environment. Current Topics in Membranes, 2020, 85, 227-259.	0.9	4
66	Cellâ€“Cell Communication in the Resistance Vasculature: The Past, Present, and Future. Microcirculation, 2012, 19, 377-378.	1.8	3
67	Endothelial signaling and the dynamic regulation of arterial tone: A surreptitious relationship. Microcirculation, 2017, 24, e12370.	1.8	3
68	Conceptualizing conduction as a pliant vasomotor response: impact of Ca²⁺ fluxes and Ca²⁺ sensitization. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 319, H1290-H1301.	3.2	2
69	TRPV4 Channel Cooperativity in the Resistance Vasculature. Biophysical Journal, 2015, 108, 1312-1313.	0.5	1
70	The Secret Life of Telomerase. Circulation Research, 2016, 118, 781-782.	4.5	1
71	Electrical amplification: K_{IR} channels taking centre stage in the hyperaemic debate. Journal of Physiology, 2019, 597, 1223-1224.	2.9	1
72	Protein kinase Aâ€mediated inhibition of Tâ€type Ca 2+ channels in the cerebral circulation. FASEB Journal, 2012, 26, 870.12.	0.5	1

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73	Cerebral Vascular K IR 2.x Channels are Distinctly Regulated by Membrane Lipids and Hemodynamic Forces.. FASEB Journal, 2018, 32, 705.7.	0.5	1
74	Autocrine P2X4 receptor activation in RBCs drives oxygenâ€dependent hyperemic responses in mouse skeletal muscle capillaries. FASEB Journal, 2022, 36, .	0.5	1
75	Investigating the Role of PKCâ€delta in Voltageâ€Independent Contractile Pathways in Mouse Resistance Arteries. FASEB Journal, 2022, 36, .	0.5	1
76	Feed the Brain: Insights into the Study of Neurovascular Coupling. Microcirculation, 2015, 22, 157-158.	1.8	0
77	Highlights from the World Congress of Microcirculation 2018. Microcirculation, 2019, 26, e12545.	1.8	0
78	Role of Ca V 3.1 Channels in Myogenic Tone and Blood Pressure Regulation in Mouse Mesenteric Arteries. FASEB Journal, 2021, 35, .	0.5	0
79	Second Messenger Communication and the Regulation of Vascular Contractility. FASEB Journal, 2010, 24, 985.13.	0.5	0
80	Tâ€•and Lâ€type Calcium Channels Contribute to Myogenic Tone In Cerebral Arteries. FASEB Journal, 2010, 24, 1033.1.	0.5	0
81	The Role of IP3 Receptors in Generating Calcium Waves and Cerebral Myogenic Tone. FASEB Journal, 2010, 24, .	0.5	0
82	Intravascular Pressure Augments Cerebral Arterial Constriction by Inducing Voltageâ€Insensitive Ca2+ Waves. FASEB Journal, 2011, 25, .	0.5	0
83	Does Gâ€protein Coupled Receptor Activation Enhance Cerebral Arterial Mechanosensitivity. FASEB Journal, 2011, 25, 1024.19.	0.5	0
84	Lâ€•and Tâ€•Type Calcium Channels in Cerebral Arteries. FASEB Journal, 2011, 25, 1024.18.	0.5	0
85	Tâ€type Ca 2+ Channels and The Induction of CICR in Vascular Smooth Muscle. FASEB Journal, 2012, 26, 863.10.	0.5	0
86	Role for Î± v Î² 3 in the regulation of Ca 2+ dynamics and myogenic tone development in rat cerebral arteries. FASEB Journal, 2012, 26, 685.23.	0.5	0
87	The Impact of Arterial Network Structure on Electrical Communication. FASEB Journal, 2012, 26, 676.2.	0.5	0
88	Protein Kinase G Inhibits Tâ€type Ca 2+ Channels in Rat Cerebral Arteries. FASEB Journal, 2013, 27, 921.3.	0.5	0
89	Lâ€and Tâ€type Ca 2+ Channels in Human Cerebral Circulation. FASEB Journal, 2013, 27, 1203.16.	0.5	0
90	Smooth Muscle K + Channels and the Modulation of Conduction in Cerebral Arteries. FASEB Journal, 2013, 27, 678.5.	0.5	0

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91	The 3D structure of the myoendothelial projections: intracellular organelles, protein trafficking and biological function (677.12). FASEB Journal, 2014, 28, 677.12.	0.5	0
92	The role of Ca 2+ influx pathways in voltageâ€dependent STOC production (853.10). FASEB Journal, 2014, 28, 853.10.	0.5	0
93	Less is more: optimal myoendothelial communication entails less gap junctions (546.7). FASEB Journal, 2014, 28, 546.7.	0.5	0
94	TRPA1 mediates NADPH oxidaseâ€dependent cerebral artery dilation (1079.1). FASEB Journal, 2014, 28, 1079.1.	0.5	0
95	A stepwise approach to resolving small ionic currents in vascular tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 318, H632-H638.	3.2	0
96	Conducted Capillary Signaling Enables Oxygen Responses in Skeletal Muscle Independent of Metabolite Production. FASEB Journal, 2022, 36, .	0.5	0
97	Endothelial Inwardly Rectifying K ⁺ Channel Subunit 2.1 Critically Enables Flowâ€mediated Dilation in Cerebral Resistance Arteries. FASEB Journal, 2022, 36, .	0.5	0