

Marc Freichel

List of Publications by Year in descending order

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117
papers

7,522
citations

38738

50
h-index

56717

83
g-index

125
all docs

125
docs citations

125
times ranked

7741
citing authors

#	ARTICLE	IF	CITATIONS
1	Lack of an endothelial store-operated Ca ²⁺ current impairs agonist-dependent vasorelaxation in TRP4 ^Δ /Δ ^Δ mice. <i>Nature Cell Biology</i> , 2001, 3, 121-127.	10.3	533
2	TRPC3 Channels Are Required for Synaptic Transmission and Motor Coordination. <i>Neuron</i> , 2008, 59, 392-398.	8.1	356
3	Impairment of Store-Operated Ca ²⁺ Entry in TRPC4 ^Δ /Δ ^Δ Mice Interferes With Increase in Lung Microvascular Permeability. <i>Circulation Research</i> , 2002, 91, 70-76.	4.5	352
4	Voltage Dependence of the Ca ²⁺ -activated Cation Channel TRPM4. <i>Journal of Biological Chemistry</i> , 2003, 278, 30813-30820.	3.4	302
5	Trp12, a novel Trp related protein from kidney. <i>FEBS Letters</i> , 2000, 485, 127-134.	2.8	276
6	Increased IgE-dependent mast cell activation and anaphylactic responses in mice lacking the calcium-activated nonselective cation channel TRPM4. <i>Nature Immunology</i> , 2007, 8, 312-320.	14.5	245
7	De novo expression of Trpm4 initiates secondary hemorrhage in spinal cord injury. <i>Nature Medicine</i> , 2009, 15, 185-191.	30.7	199
8	TRPM4 cation channel mediates axonal and neuronal degeneration in experimental autoimmune encephalomyelitis and multiple sclerosis. <i>Nature Medicine</i> , 2012, 18, 1805-1811.	30.7	181
9	Deletion of TRPC4 and TRPC6 in Mice Impairs Smooth Muscle Contraction and Intestinal Motility In Vivo. <i>Gastroenterology</i> , 2009, 137, 1415-1424.	1.3	169
10	Activation of TRPC6 channels is essential for lung ischaemia-induced reperfusion induced oedema in mice. <i>Nature Communications</i> , 2012, 3, 649.	12.8	162
11	Dicarbonyls and Advanced Glycation End-Products in the Development of Diabetic Complications and Targets for Intervention. <i>International Journal of Molecular Sciences</i> , 2017, 18, 984.	4.1	152
12	Isoform-specific Inhibition of TRPC4 Channel by Phosphatidylinositol 4,5-Bisphosphate. <i>Journal of Biological Chemistry</i> , 2008, 283, 10026-10036.	3.4	150
13	TRPC3 and TRPC6 are essential for normal mechanotransduction in subsets of sensory neurons and cochlear hair cells. <i>Open Biology</i> , 2012, 2, 120068.	3.6	135
14	Increased catecholamine secretion contributes to hypertension in TRPM4-deficient mice. <i>Journal of Clinical Investigation</i> , 2010, 120, 3267-3279.	8.2	134
15	Canonical Transient Receptor Channel 5 (TRPC5) and TRPC1/4 Contribute to Seizure and Excitotoxicity by Distinct Cellular Mechanisms. <i>Molecular Pharmacology</i> , 2013, 83, 429-438.	2.3	113
16	The Ca ²⁺ Sensor Stromal Interaction Molecule 1 (STIM1) Is Necessary and Sufficient for the Store-Operated Ca ²⁺ Entry Function of Transient Receptor Potential Canonical (TRPC) 1 and 4 Channels in Endothelial Cells. <i>Molecular Pharmacology</i> , 2012, 81, 510-526.	2.3	112
17	Removal of Ca ²⁺ Channel β 3 Subunit Enhances Ca ²⁺ Oscillation Frequency and Insulin Exocytosis. <i>Cell</i> , 2004, 119, 273-284.	28.9	105
18	Contribution of transient receptor potential channels to the control of GABA release from dendrites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 16065-16070.	7.1	101

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19	Critical role for the α regulatory subunits of Cav channels in T lymphocyte function. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15529-15534.	7.1	101
20	TRPM4 regulates migration of mast cells in mice. Cell Calcium, 2009, 45, 226-232.	2.4	99
21	Reduced Cardiac L-Type Ca ²⁺ Current in Ca ^v 2 α Embryos Impairs Cardiac Development and Contraction With Secondary Defects in Vascular Maturation. Circulation Research, 2006, 99, 749-757.	4.5	95
22	Male Fertility Depends on Ca ²⁺ Absorption by TRPV6 in Epididymal Epithelia. Science Signaling, 2011, 4, ra27.	3.6	95
23	Murine ORAI2 Splice Variants Form Functional Ca ²⁺ Release-activated Ca ²⁺ (CRAC) Channels*. Journal of Biological Chemistry, 2007, 282, 19375-19384.	3.4	92
24	Functional role of TRPC proteins in native systems: implications from knockout and knock-down studies. Journal of Physiology, 2005, 567, 59-66.	2.9	90
25	The Gq signalling pathway inhibits brown and beige adipose tissue. Nature Communications, 2016, 7, 10895.	12.8	90
26	A background Ca ²⁺ entry pathway mediated by TRPC1/TRPC4 is critical for development of pathological cardiac remodelling. European Heart Journal, 2015, 36, 2257-2266.	2.2	88
27	Heteromeric channels formed by TRPC1, TRPC4 and TRPC5 define hippocampal synaptic transmission and working memory. EMBO Journal, 2017, 36, 2770-2789.	7.8	88
28	A proteolytic fragment of histone deacetylase 4 protects the heart from failure by regulating the hexosamine biosynthetic pathway. Nature Medicine, 2018, 24, 62-72.	30.7	88
29	Paradoxical Block of Parathormone Secretion Is Mediated by Increased Activity of G β Subunits. Journal of Biological Chemistry, 2001, 276, 6763-6769.	3.4	83
30	Increased β -Adrenergic Inotropy in Ventricular Myocardium From Trpm4 ^{-/-} Mice. Circulation Research, 2014, 114, 283-294.	4.5	81
31	Lung Endothelial Ca ²⁺ and Permeability Response to Platelet-Activating Factor Is Mediated by Acid Sphingomyelinase and Transient Receptor Potential Classical 6. American Journal of Respiratory and Critical Care Medicine, 2012, 185, 160-170.	5.6	80
32	Heteromeric Canonical Transient Receptor Potential 1 and 4 Channels Play a Critical Role in Epileptiform Burst Firing and Seizure-Induced Neurodegeneration. Molecular Pharmacology, 2012, 81, 384-392.	2.3	78
33	Variants That Affect Function of Calcium Channel TRPV6 Are Associated With Early-Onset Chronic Pancreatitis. Gastroenterology, 2020, 158, 1626-1641.e8.	1.3	77
34	Ca ²⁺ Entry via TRPC Channels Is Necessary for Thrombin-induced NF- κ B Activation in Endothelial Cells through AMP-activated Protein Kinase and Protein Kinase C δ . Journal of Biological Chemistry, 2009, 284, 563-574.	3.4	76
35	Novel insights into the mechanisms mediating the local antihypertrophic effects of cardiac atrial natriuretic peptide: role of cGMP-dependent protein kinase and RGS2. Basic Research in Cardiology, 2010, 105, 583-595.	5.9	75
36	Heart Rate Contributes to the Vascular Effects of Chronic Mental Stress. Stroke, 2011, 42, 1742-1749.	2.0	75

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37	The Sur1-Trpm4 channel regulates NOS2 transcription in TLR4-activated microglia. Journal of Neuroinflammation, 2016, 13, 130.	7.2	75
38	The TRPV6 gene, cDNA and protein. Cell Calcium, 2003, 33, 509-518.	2.4	72
39	Pain Perception in Mice Lacking the $\hat{I}23$ Subunit of Voltage-activated Calcium Channels. Journal of Biological Chemistry, 2002, 277, 40342-40351.	3.4	70
40	Transient Receptor Potential Channels Function as a Coincidence Signal Detector Mediating Phosphatidylserine Exposure. Science Signaling, 2013, 6, ra50.	3.6	67
41	Loss of Glyoxalase 1 Induces Compensatory Mechanism to Achieve Dicarboxyl Detoxification in Mammalian Schwann Cells. Journal of Biological Chemistry, 2017, 292, 3224-3238.	3.4	67
42	Synaptobrevin2 is the v-SNARE required for cytotoxic T-lymphocyte lytic granule fusion. Nature Communications, 2013, 4, 1439.	12.8	65
43	The Role of TRP Proteins in Mast Cells. Frontiers in Immunology, 2012, 3, 150.	4.8	62
44	Excision of Trpv6 Gene Leads to Severe Defects in Epididymal Ca ²⁺ Absorption and Male Fertility Much Like Single D541A Pore Mutation. Journal of Biological Chemistry, 2012, 287, 17930-17941.	3.4	61
45	NMDA Receptor-Dependent Synaptic Activation of TRPC Channels in Olfactory Bulb Granule Cells. Journal of Neuroscience, 2012, 32, 5737-5746.	3.6	61
46	Store-Operated Cation Channels in the Heart and Cells of the Cardiovascular System. Cellular Physiology and Biochemistry, 1999, 9, 270-283.	1.6	59
47	Defective survival of naive CD8+ T lymphocytes in the absence of the $\hat{I}23$ regulatory subunit of voltage-gated calcium channels. Nature Immunology, 2009, 10, 1275-1282.	14.5	59
48	Functional TRPV6 channels are crucial for transepithelial Ca ²⁺ absorption. American Journal of Physiology - Renal Physiology, 2012, 303, G879-G885.	3.4	59
49	Modulation of Ca ²⁺ Signaling by Na ⁺ /Ca ²⁺ Exchangers in Mast Cells. Journal of Immunology, 2005, 174, 119-130.	0.8	56
50	The Ca ²⁺ -activated cation channel TRPM4 is a negative regulator of angiotensin II-induced cardiac hypertrophy. Basic Research in Cardiology, 2015, 110, 43.	5.9	55
51	Diversity and Developmental Expression of L-type Calcium Channel $\hat{I}22$ Proteins and Their Influence on Calcium Current in Murine Heart. Journal of Biological Chemistry, 2009, 284, 30129-30137.	3.4	53
52	Moderate Calcium Channel Dysfunction in Adult Mice with Inducible Cardiomyocyte-specific Excision of the cacnb2 Gene. Journal of Biological Chemistry, 2011, 286, 15875-15882.	3.4	50
53	A cardiac pathway of cyclic GMP-independent signaling of guanylyl cyclase A, the receptor for atrial natriuretic peptide. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18500-18505.	7.1	48
54	Regulation of the pleiotropic effects of tissue-resident mast cells. Journal of Allergy and Clinical Immunology, 2019, 144, S31-S45.	2.9	48

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55	Compensatory mechanisms for methylglyoxal detoxification in experimental & clinical diabetes. <i>Molecular Metabolism</i> , 2018, 18, 143-152.	6.5	45
56	Mechanism of Stretch-Induced Activation of the Mechanotransducer Zyxin in Vascular Cells. <i>Science Signaling</i> , 2012, 5, ra91.	3.6	44
57	Odontoblast TRPC5 channels signal cold pain in teeth. <i>Science Advances</i> , 2021, 7, .	10.3	42
58	TRPC4- and TRPC4-Containing Channels. <i>Handbook of Experimental Pharmacology</i> , 2014, 222, 85-128.	1.8	42
59	TRPM4-dependent post-synaptic depolarization is essential for the induction of NMDA receptor-dependent LTP in CA1 hippocampal neurons. <i>Pflugers Archiv European Journal of Physiology</i> , 2016, 468, 593-607.	2.8	38
60	Deletion of Orai2 augments endogenous CRAC currents and degranulation in mast cells leading to enhanced anaphylaxis. <i>Cell Calcium</i> , 2018, 71, 24-33.	2.4	38
61	The transient receptor potential channel TRPV6 is dynamically expressed in bone cells but is not crucial for bone mineralization in mice. <i>Journal of Cellular Physiology</i> , 2012, 227, 1951-1959.	4.1	36
62	The auxiliary subunit β_1 of the skeletal muscle L-type Ca^{2+} channel is an endogenous Ca^{2+} antagonist. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 17885-17890.	7.1	35
63	Enhancing mitochondrial activity in neurons protects against neurodegeneration in a mouse model of multiple sclerosis. <i>ELife</i> , 2021, 10, .	6.0	34
64	Specific detection and semi-quantitative analysis of TRPC4 protein expression by antibodies. <i>Pflugers Archiv European Journal of Physiology</i> , 2005, 451, 81-86.	2.8	33
65	Altered Inactivation of Ca^{2+} Current and Ca^{2+} Release in Mouse Muscle Fibers Deficient in the DHP receptor β_1 subunit. <i>Journal of General Physiology</i> , 2004, 124, 605-618.	1.9	31
66	TRPC proteins contribute to development of diabetic retinopathy and regulate glyoxalase 1 activity and methylglyoxal accumulation. <i>Molecular Metabolism</i> , 2018, 9, 156-167.	6.5	30
67	Lipid-independent control of endothelial and neuronal TRPC3 channels by light. <i>Chemical Science</i> , 2019, 10, 2837-2842.	7.4	28
68	TRPC channels regulate Ca^{2+} -signaling and short-term plasticity of fast glutamatergic synapses. <i>PLoS Biology</i> , 2019, 17, e3000445.	5.6	27
69	TRPC4 and TRPC4-Deficient Mice. <i>Novartis Foundation Symposium</i> , 2008, , 189-203.	1.1	26
70	Increase in cytosolic Ca^{2+} produced by hypoxia and other depolarizing stimuli activates a non-selective cation channel in chemoreceptor cells of rat carotid body. <i>Journal of Physiology</i> , 2014, 592, 1975-1992.	2.9	24
71	TRPC4/TRPC5 channels mediate adverse reaction to the cancer cell cytotoxic agent (-)-Englerin A. <i>Oncotarget</i> , 2018, 9, 29634-29643.	1.8	24
72	Crucial Role of TRPC1 and TRPC4 in Cystitis-Induced Neuronal Sprouting and Bladder Overactivity. <i>PLoS ONE</i> , 2013, 8, e69550.	2.5	24

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73	Trpc5 deficiency causes hypoprolactinemia and altered function of oscillatory dopamine neurons in the arcuate nucleus. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 15236-15243.	7.1	22
74	Dual depolarization responses generated within the same lateral septal neurons by TRPC4-containing channels. <i>Pflugers Archiv European Journal of Physiology</i> , 2014, 466, 1301-1316.	2.8	21
75	TPC1 deficiency or blockade augments systemic anaphylaxis and mast cell activity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 18068-18078.	7.1	21
76	The role of cGMP/cGKI signalling and Trpc channels in regulation of vascular tone. <i>Cardiovascular Research</i> , 2013, 100, 280-287.	3.8	20
77	Functional interaction between TRP4 and CFTR in mouse aorta endothelial cells. <i>BMC Physiology</i> , 2001, 1, 3.	3.6	18
78	Contribution of TRPC Channels in Neuronal Excitotoxicity Associated With Neurodegenerative Disease and Ischemic Stroke. <i>Frontiers in Cell and Developmental Biology</i> , 2020, 8, 618663.	3.7	18
79	Maternal Transient Receptor Potential Vanilloid 6 (Trpv6) Is Involved In Offspring Bone Development. <i>Journal of Bone and Mineral Research</i> , 2019, 34, 699-710.	2.8	17
80	Analysis of Mrgprb2 Receptor-Evoked Ca ²⁺ Signaling in Bone Marrow Derived (BMMC) and Peritoneal (PMC) Mast Cells of TRPC-Deficient Mice. <i>Frontiers in Immunology</i> , 2020, 11, 564.	4.8	17
81	Essential roles for Ca ^v 2 and Ca ^v 1 channels in thymocyte development and T cell homeostasis. <i>Science Signaling</i> , 2015, 8, ra103.	3.6	16
82	Does Erythropoietin Regulate TRPC Channels in Red Blood Cells?. <i>Cellular Physiology and Biochemistry</i> , 2017, 41, 1219-1228.	1.6	16
83	Novel Endothelial Cell-Specific AQP1 Knockout Mice Confirm the Crucial Role of Endothelial AQP1 in Ultrafiltration during Peritoneal Dialysis. <i>PLoS ONE</i> , 2016, 11, e0145513.	2.5	16
84	Adenylyl cyclase-mediated effects contribute to increased Isoprenaline-induced cardiac contractility in TRPM4-deficient mice. <i>Journal of Molecular and Cellular Cardiology</i> , 2014, 74, 307-317.	1.9	15
85	Modulation of recombinant transient-receptor-potential-like (TRPL) channels by cytosolic Ca ²⁺ . <i>Pflugers Archiv European Journal of Physiology</i> , 2000, 440, 409-417.	2.8	13
86	Ba ²⁺ currents in inner and outer hair cells of mice lacking the voltage-dependent Ca ²⁺ channel subunits β 3 or β 4. <i>Channels</i> , 2009, 3, 366-376.	2.8	13
87	Functional Characterization of Transient Receptor Potential (TRP) Channel C5 in Female Murine Gonadotropes. <i>Endocrinology</i> , 2017, 158, 887-902.	2.8	13
88	Methylglyoxal evokes acute Ca ²⁺ transients in distinct cell types and increases agonist-evoked Ca ²⁺ entry in endothelial cells via CRAC channels. <i>Cell Calcium</i> , 2019, 78, 66-75.	2.4	13
89	Genetic background influences expression and function of the cation channel TRPM4 in the mouse heart. <i>Basic Research in Cardiology</i> , 2020, 115, 70.	5.9	13
90	Cardiomyocyte-Specific Deletion of Orai1 Reveals Its Protective Role in Angiotensin-II-Induced Pathological Cardiac Remodeling. <i>Cells</i> , 2020, 9, 1092.	4.1	13

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91	TRPC channels are not required for graded persistent activity in entorhinal cortex neurons. <i>Hippocampus</i> , 2019, 29, 1038-1048.	1.9	12
92	TRPC1/4/5 channels contribute to morphine-induced analgesic tolerance and hyperalgesia by enhancing spinal synaptic potentiation and structural plasticity. <i>FASEB Journal</i> , 2020, 34, 8526-8543.	0.5	12
93	Angiotensin-II-Evoked Ca ²⁺ Entry in Murine Cardiac Fibroblasts Does Not Depend on TRPC Channels. <i>Cells</i> , 2020, 9, 322.	4.1	12
94	Ca ²⁺ channel currents and contraction in Ca ^v 2.3-deficient ileum smooth muscle from mouse. <i>Cell Calcium</i> , 2007, 42, 477-487.	2.4	11
95	Contractility Measurements on Isolated Papillary Muscles for the Investigation of Cardiac Inotropy in Mice. <i>Journal of Visualized Experiments</i> , 2015, , .	0.3	11
96	TRPV4-Mediated Regulation of the Blood Brain Barrier Is Abolished During Inflammation. <i>Frontiers in Cell and Developmental Biology</i> , 2020, 8, 849.	3.7	11
97	A Global Cndp1-Knock-Out Selectively Increases Renal Carnosine and Anserine Concentrations in an Age- and Gender-Specific Manner in Mice. <i>International Journal of Molecular Sciences</i> , 2020, 21, 4887.	4.1	11
98	Cyclic regulation of Trpm4 expression in female vomeronasal neurons driven by ovarian sex hormones. <i>Molecular and Cellular Neurosciences</i> , 2020, 105, 103495.	2.2	11
99	Saraf-dependent activation of mTORC1 regulates cardiac growth. <i>Journal of Molecular and Cellular Cardiology</i> , 2020, 141, 30-42.	1.9	11
100	TRPM4 Modulates Right Ventricular Remodeling Under Pressure Load Accompanied With Decreased Expression Level. <i>Journal of Cardiac Failure</i> , 2020, 26, 599-609.	1.7	11
101	RNA-seq analysis reveals TRPC genes to impact an unexpected number of metabolic and regulatory pathways. <i>Scientific Reports</i> , 2020, 10, 7227.	3.3	11
102	Boosting targeted genome editing using the hei-tag. <i>ELife</i> , 2022, 11, .	6.0	10
103	TRPM4-mediated control of FcγRI-evoked Ca ²⁺ elevation comprises enhanced plasmalemmal trafficking of TRPM4 channels in connective tissue type mast cells. <i>Scientific Reports</i> , 2016, 6, 32981.	3.3	9
104	Contribution of NAADP to Glutamate-Evoked Changes in Ca ²⁺ Homeostasis in Mouse Hippocampal Neurons. <i>Frontiers in Cell and Developmental Biology</i> , 2020, 8, 496.	3.7	9
105	Assessment of PEEP-Ventilation and the Time Point of Parallel-Conductance Determination for Pressure-Volume Analysis Under β ₂ -Adrenergic Stimulation in Mice. <i>Frontiers in Cardiovascular Medicine</i> , 2019, 6, 36.	2.4	8
106	Isolation of Peritoneum-derived Mast Cells and Their Functional Characterization with Ca ²⁺ Imaging and Degranulation Assays. <i>Journal of Visualized Experiments</i> , 2018, , .	0.3	7
107	Novel Nongenetic Murine Model of Hyperglycemia and Hyperlipidemia-Associated Aggravated Atherosclerosis. <i>Frontiers in Cardiovascular Medicine</i> , 2022, 9, 813215.	2.4	7
108	Deep Metabolic Profiling Assessment of Tissue Extraction Protocols for Three Model Organisms. <i>Frontiers in Chemistry</i> , 2022, 10, 869732.	3.6	6

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109	9-Phenanthrol enhances the generation of an CD8 + T cell response following transcutaneous immunization with imiquimod in mice. <i>Journal of Dermatological Science</i> , 2017, 87, 260-267.	1.9	5
110	Transcriptional signatures regulated by TRPC1/C4-mediated Background Ca ²⁺ entry after pressure-overload induced cardiac remodelling. <i>Progress in Biophysics and Molecular Biology</i> , 2021, 159, 86-104.	2.9	5
111	Development of an AAV9-RNAi-mediated silencing strategy to abrogate TRPM4 expression in the adult heart. <i>Pflugers Archiv European Journal of Physiology</i> , 2021, 473, 533-546.	2.8	5
112	Trophectoderm cell failure leads to peri-implantation lethality in <i>Trpm7</i> -deficient mouse embryos. <i>Cell Reports</i> , 2021, 37, 109851.	6.4	4
113	The activity of glyoxylase 1 is regulated by glucose-responsive phosphorylation on Tyr136. <i>Molecular Metabolism</i> , 2022, 55, 101406.	6.5	4
114	Emergent Temporal Signaling in Human Trabecular Meshwork Cells: Role of TRPV4-TRPM4 Interactions. <i>Frontiers in Immunology</i> , 2022, 13, 805076.	4.8	4
115	The 2021 FASEB science research conference on NAD metabolism and signaling. <i>Aging</i> , 2021, 13, 24924-24930.	3.1	1
116	L-type blocker STIMulate Ca ²⁺ entry in synthetic VSMCs. <i>Cell Calcium</i> , 2020, 91, 102279.	2.4	0
117	Lung endothelial Ca ²⁺ and permeability response to PAF is mediated by TRPC6. <i>FASEB Journal</i> , 2012, 26, .	0.5	0