Florian Lesage

List of Publications by Year
in descending order

123 papers	14,665 citations	22153 59 h-index	19190 118 g-index
126 all docs	126 docs citations	126 times ranked	8215 citing authors

#	Article	IF	Citations
1	KvLQT1 and IsK (minK) proteins associate to form the IKS cardiac potassium current. Nature, 1996, 384, 78-80.	27.8	1,552
2	Inhalational anesthetics activate two-pore-domain background K+ channels. Nature Neuroscience, 1999, 2, 422-426.	14.8	606
3	A mammalian two pore domain mechano-gated S-like K+ channel. EMBO Journal, 1998, 17, 4283-4290.	7.8	572
4	TASK, a human background K+ channel to sense external pH variations near physiological pH. EMBO Journal, 1997, 16, 5464-5471.	7.8	568
5	Molecular and functional properties of two-pore-domain potassium channels. American Journal of Physiology - Renal Physiology, 2000, 279, F793-F801.	2.7	518
6	Cloning, functional expression and brain localization of a novel unconventional outward rectifier K+ channel.. EMBO Journal, 1996, 15, 6854-6862.	7.8	438
7	TREK-1 is a heat-activated background K+ channel. EMBO Journal, 2000, 19, 2483-2491.	7.8	431
8	A neuronal two P domain K+ channel stimulated by arachidonic acid and polyunsaturated fatty acids. EMBO Journal, 1998, 17, 3297-3308.	7.8	418
9	Inner Ear Defects Induced by Null Mutationof the isk Gene. Neuron, 1996, 17, 1251-1264.	8.1	380
10	Mechano- or Acid Stimulation, Two Interactive Modes of Activation of the TREK-1 Potassium Channel. Journal of Biological Chemistry, 1999, 274, 26691-26696.	3.4	366
11	International Union of Pharmacology. XLI. Compendium of Voltage-Gated Ion Channels: Potassium Channels. Pharmacological Reviews, 2003, 55, 583-586.	16.0	358
12	Lysophospholipids Open the Two-pore Domain Mechano-gated K+ Channels TREK-1 and TRAAK. Journal of Biological Chemistry, 2000, 275, 10128-10133.	3.4	320
13	Cloning and Expression of a Novel pH-sensitive Two Pore Domain K+ Channel from Human Kidney. Journal of Biological Chemistry, 1998, 273, 30863-30869.	3.4	319
14	TRAAK Is a Mammalian Neuronal Mechano-gated K+Channel. Journal of Biological Chemistry, 1999, 274, 1381-1387.	3.4	317
15	Human TREK2, a 2P Domain Mechano-sensitive K+Channel with Multiple Regulations by Polyunsaturated Fatty Acids, Lysophospholipids, and Gs, Gi, and Gq Protein-coupled Receptors. Journal of Biological Chemistry, 2000, 275, 28398-28405.	3.4	284
16	Cloning provides evidence for a family of inward rectifier and G-protein coupled K+ channels in the brain. FEBS Letters, 1994, 353, 37-42.	2.8	271
17	RIM Binding Proteins (RBPs) Couple Rab3-Interacting Molecules (RIMs) to Voltage-Gated Ca2+ Channels. Neuron, 2002, 34, 411-423.	8.1	270
18	International Union of Pharmacology. LV. Nomenclature and Molecular Relationships of Two-P Potassium Channels. Pharmacological Reviews, 2005, 57, 527-540.	16.0	270

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19	Pharmacology of neuronal background potassium channels. Neuropharmacology, 2003, 44, 1-7.	4.1	237
20	Molecular Properties of Neuronal G-protein-activated Inwardly Rectifying K+ Channels. Journal of Biological Chemistry, 1995, 270, 28660-28667.	3.4	232
21	External blockade of the major cardiac delayed-rectifier K+ channel (Kv1.5) by polyunsaturated fatty acids.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 1937-1941.	7.1	189
22	The family of K_{2P} channels: salient structural and functional properties. Journal of Physiology, 2015, 593, 2587-2603.	2.9	178
23	Mechanisms underlying excitatory effects of group I metabotropic glutamate receptors via inhibition of 2P domain K+ channels. EMBO Journal, 2003, 22, 5403-5411.	7.8	171
24	Susceptibility of cloned K+ channels to reactive oxygen species.. Proceedings of the National Academy of Sciences of the United States of America, 1995, 92, 11796-11800.	7.1	171
25	Invalidation of TASK1 potassium channels disrupts adrenal gland zonation and mineralocorticoid homeostasis. EMBO Journal, 2008, 27, 179-187.	7.8	168
26	Genomic and Functional Characteristics of Novel Human Pancreatic 2P Domain K+ Channels. Biochemical and Biophysical Research Communications, 2001, 282, 249-256.	2.1	157
27	Dimerization of TWIK-1 K+ channel subunits via a disulfide bridge.. EMBO Journal, 1996, 15, 6400-6407.	7.8	156
28	Heterologous Multimeric Assembly Is Essential for K+ Channel Activity of Neuronal and Cardiac G-Protein-Activated Inward Rectifiers. Biochemical and Biophysical Research Communications, 1995, 212, 657-663.	2.1	150
29	The protein IsK is a dual activator of K+ and Clâˆ’ channels. Nature, 1993, 365, 850-852.	27.8	139
30	A TREK-1â€“Like Potassium Channel in Atrial Cells Inhibited by Î²-Adrenergic Stimulation and Activated by Volatile Anesthetics. Circulation Research, 2001, 89, 336-342.	4.5	135
31	Molecular regulations governing TREK and TRAAK channel functions. Channels, 2011, 5, 402-409.	2.8	133
32	Task2 potassium channels set central respiratory CO ₂ and O ₂ sensitivity. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 2325-2330.	7.1	132
33	TASK (TWIKâ€“Related Acid-Sensitive K+ Channel) Is Expressed in Glomerulosa Cells of Rat Adrenal Cortex and Inhibited by Angiotensin II. Molecular Endocrinology, 2000, 14, 863-874.	3.7	130
34	Extracellular acidification exerts opposite actions on TREK1 and TREK2 potassium channels via a single conserved histidine residue. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 14628-14633.	7.1	122
35	Kv1.1 Channels Act as Mechanical Brake in the Senses of Touch and Pain. Neuron, 2013, 77, 899-914.	8.1	120
36	Proximal renal tubular acidosis in TASK2 K+ channel-deficient mice reveals a mechanism for stabilizing bicarbonate transport. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8215-8220.	7.1	117

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37	Role of the TREK2 potassium channel in cold and warm thermosensation and in pain perception. Pain, 2014, 155, 2534-2544.	4.2	112
38	The structure, function and distribution of the mouse TWIK-1 K+ channel. FEBS Letters, 1997, 402, 28-32.	2.8	109
39	Cloning of a New Mouse Two-P Domain Channel Subunit and a Human Homologue with a Unique Pore Structure. Journal of Biological Chemistry, 1999, 274, 11751-11760.	3.4	108
40	Cloning and expression of human TRAAK, a polyunsaturated fatty acids-activated and mechano-sensitive K+ channel. FEBS Letters, 2000, 471, 137-140.	2.8	105
41	A pH-sensitive Yeast Outward Rectifier K+ Channel with Two Pore Domains and Novel Gating Properties. Journal of Biological Chemistry, 1996, 271, 4183-4187.	3.4	104
42	Direct interaction with a nuclear protein and regulation of gene silencing by a variant of the Ca2+-channel Â4 subunit. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 307-312.	7.1	103
43	AKAP150, a switch to convert mechano-, pH- and arachidonic acid-sensitive TREK K+ channels into open leak channels. EMBO Journal, 2006, 25, 5864-5872.	7.8	101
44	Migraine-Associated TRESK Mutations Increase Neuronal Excitability through Alternative Translation Initiation and Inhibition of TREK. Neuron, 2019, 101, 232-245.e6.	8.1	99
45	TASK-2 Channels Contribute to pH Sensitivity of Retrotrapezoid Nucleus Chemoreceptor Neurons. Journal of Neuroscience, 2013, 33, 16033-16044.	3.6	98
46	A New K+ Channel Î² Subunit to Specifically Enhance Kv2.2 (CDRK) Expression. Journal of Biological Chemistry, 1996, 271, 26341-26348.	3.4	92
47	TASK (TWIK-Related Acid-Sensitive K+ Channel) Is Expressed in Glomerulosa Cells of Rat Adrenal Cortex and Inhibited by Angiotensin II. Molecular Endocrinology, 2000, 14, 863-874.	3.7	92
48	Role of TASK2 Potassium Channels Regarding Volume Regulation in Primary Cultures of Mouse Proximal Tubules. Journal of General Physiology, 2003, 122, 177-190.	1.9	87
49	TWIK1, a unique background channel with variable ion selectivity. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5499-5504.	7.1	85
50	An immunocytochemical study on the distribution of two G-protein-gated inward rectifier potassium channels (GIRK2 and GIRK4) in the adult rat brain. Neuroscience, 1997, 80, 345-357.	2.3	84
51	Does Sumoylation Control K2P1/TWIK1 Background K+ Channels?. Cell, 2007, 130, 563-569.	28.9	75
52	Molecular Physiology of pH-Sensitive Background K_{2P} Channels. Physiology, 2011, 26, 424-437.	3.1	71
53	Effects of the level of mRNA expression on biophysical properties, sensitivity to neurotoxins, and regulation of the brain delayed-rectifier K+ channel Kv1.2. Biochemistry, 1992, 31, 12463-12468.	2.5	70
54	Glucose Inhibition Persists in Hypothalamic Neurons Lacking Tandem-Pore K+ Channels. Journal of Neuroscience, 2009, 29, 2528-2533.	3.6	69

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55	Expression and Localization of TREK-1 K⁺ Channels in Human Odontoblasts. Journal of Dental Research, 2003, 82, 542-545.	5.2	68
56	Mixing and matching TREK/TRAAK subunits generate heterodimeric K _{2P} channels with unique properties. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4200-4205.	7.1	66
57	ARF6â€dependent interaction of the TWIK1 K + channel with EFA6, a GDP/GTP exchange factor for ARF6. EMBO Reports, 2004, 5, 1171-1175.	4.5	64
58	Task3 Potassium Channel Gene Invalidation Causes Low Renin and Salt-Sensitive Arterial Hypertension. Endocrinology, 2012, 153, 4740-4748.	2.8	63
59	A Novel Mammalian Lithium-sensitive Enzyme with a Dual Enzymatic Activity, 3â€²-Phosphoadenosine 5â€²-Phosphate Phosphatase and Inositol-polyphosphate 1-Phosphatase. Journal of Biological Chemistry, 1999, 274, 16034-16039.	3.4	62
60	Potassium Channel Silencing by Constitutive Endocytosis and Intracellular Sequestration. Journal of Biological Chemistry, 2010, 285, 4798-4805.	3.4	57
61	Cacnb4 directly couples electrical activity to gene expression, a process defective in juvenile epilepsy. EMBO Journal, 2012, 31, 3730-3744.	7.8	57
62	Immunolocalization of the arachidonic acid and mechanosensitive baseline TRAAK potassium channel in the nervous system. Neuroscience, 1999, 95, 893-901.	2.3	56
63	Antiepileptic popular ketogenic diet: emerging twists in an ancient story. Progress in Neurobiology, 2005, 75, 1-28.	5.7	56
64	Mechanoprotection by Polycystins against Apoptosis Is Mediated through the Opening of Stretch-Activated K2P Channels. Cell Reports, 2012, 1, 241-250.	6.4	54
65	Mtap2 Is a Constituent of the Protein Network That Regulates Twik-Related K⁺Channel Expression and Trafficking. Journal of Neuroscience, 2008, 28, 8545-8552.	3.6	53
66	Developmental expression of voltage-sensitive K+channels in mouse skeletal muscle and C2C12cells. FEBS Letters, 1992, 310, 162-166.	2.8	51
67	Phospholipase D2 specifically regulates TREK potassium channels via direct interaction and local production of phosphatidic acid. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13547-13552.	7.1	47
68	Development of the First Two-Pore Domain Potassium Channel TWIK-Related K⁺ Channel 1-Selective Agonist Possessing in Vivo Antinociceptive Activity. Journal of Medicinal Chemistry, 2017, 60, 1076-1088.	6.4	46
69	Expression cloning in K$transport defective yeast and distribution of HBP1, a new putative HMG transcriptional regulator. Nucleic Acids Research, 1994, 22, 3685-3688.	14.5	45
70	Activation of Neurotensin Receptor 1 Facilitates Neuronal Excitability and Spatial Learning and Memory in the Entorhinal Cortex: Beneficial Actions in an Alzheimer's Disease Model. Journal of Neuroscience, 2014, 34, 7027-7042.	3.6	45
71	Perspectives on the Two-Pore Domain Potassium Channel TREK-1 (TWIK-Related K⁺ Channel) Tj ETQq1 1 0.784314 rgBT /O	6.4	45
72	Dominant negative chimeras provide evidence for homo and heteromultimeric assembly of inward rectifier K+channel proteins via their N-terminal end. FEBS Letters, 1996, 378, 64-68.	2.8	41

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73	Association of Â-catenin with the Â-subunit of neuronal large-conductance Ca2+-activated K+ channels. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 671-675.	7.1	36
74	Tandem Pore Domain Halothane-inhibited K+ Channel Subunits THIK1 and THIK2 Assemble and Form Active Channels. Journal of Biological Chemistry, 2014, 289, 28202-28212.	3.4	36
75	Comparative expression of the inward rectifier K+ channel GIRK2 in the cerebellum of normal and weaver mutant mice. Brain Research, 1997, 753, 8-17.	2.2	35
76	Severe Hyperaldosteronism in Neonatal Task3 Potassium Channel Knockout Mice Is Associated With Activation of the Intraadrenal Renin-Angiotensin System. Endocrinology, 2013, 154, 2712-2722.	2.8	35
77	Mutation of a single residue promotes gating of vertebrate and invertebrate two-pore domain potassium channels. Nature Communications, 2019, 10, 787.	12.8	35
78	Regulation of a major cloned voltage‐gated K+channel from human T lymphocytes. FEBS Letters, 1992, 303, 229-232.	2.8	34
79	The contribution of TWIK-1 channels to astrocyte K+ current is limited by retention in intracellular compartments. Frontiers in Cellular Neuroscience, 2013, 7, 246.	3.7	34
80	Structure, chromosome localization, and tissue distribution of the mouse twik K+ channel gene. FEBS Letters, 1998, 425, 310-316.	2.8	33
81	ISK, a slowly activating voltage-sensitive K+channel Characterization of multiple cDNAs and gene organization in the mouse. FEBS Letters, 1992, 301, 168-172.	2.8	31
82	Synthesis and structureâ€“activity relationship study of substituted caffeate esters as antinociceptive agents modulating the TREK-1 channel. European Journal of Medicinal Chemistry, 2014, 75, 391-402.	5.5	31
83	Membrane Potential-regulated Transcription of the Resting K+ Conductance TASK-3 via the Calcineurin Pathway. Journal of Biological Chemistry, 2006, 281, 28910-28918.	3.4	30
84	Behavioral characterization of mice lacking Trek channels. Frontiers in Behavioral Neuroscience, 2012, 6, 60.	2.0	30
85	Altered and dynamic ion selectivity of K+ channels in cell development and excitability. Trends in Pharmacological Sciences, 2014, 35, 461-469.	8.7	29
86	Localization of a Potassium Channel Gene (KCNE1) to 21q22.1-q22.2 by in Situ Hybridization and Somatic Cell Hybridization. Genomics, 1993, 15, 243-245.	2.9	28
87	The two-pore domain potassium channel, TWIK-1, has a role in the regulation of heart rate and atrial size. Journal of Molecular and Cellular Cardiology, 2016, 97, 24-35.	1.9	28
88	Fetal brain hypometabolism during prolonged hypoxaemia in the llama. Journal of Physiology, 2005, 567, 963-975.	2.9	27
89	Silencing of the Tandem Pore Domain Halothane-inhibited K+ Channel 2 (THIK2) Relies on Combined Intracellular Retention and Low Intrinsic Activity at the Plasma Membrane. Journal of Biological Chemistry, 2013, 288, 35081-35092.	3.4	25
90	Axonal transport of TREK and TRAAK potassium channels in rat sciatic nerves. NeuroReport, 2000, 11, 927-930.	1.2	24

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91	Antagonistic Effect of a Cytoplasmic Domain on the Basal Activity of Polymodal Potassium Channels. Frontiers in Molecular Neuroscience, 2018, 11, 301.	2.9	24
92	Mapping of Human Potassium Channel Genes TREK-1 (KCNK2) and TASK (KCNK3) to Chromosomes 1q41 and 2p23. Genomics, 1998, 51, 478-479.	2.9	23
93	Glucoseâ€induced inhibition: how many ionic mechanisms?. Acta Physiologica, 2010, 198, 295-301.	3.8	23
94	Hyperoxia treatment of TREK-1/TREK-2/TRAAK-deficient mice is associated with a reduction in surfactant proteins. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2017, 313, L1030-L1046.	2.9	23
95	Inhibition of histone deacetylation rescues phenotype in a mouse model of Birk-Barel intellectual disability syndrome. Nature Communications, 2020, 11, 480.	12.8	23
96	Recombinant tandem of pore-domains in a Weakly Inward rectifying K+ channel 2 (TWIK2) forms active lysosomal channels. Scientific Reports, 2017, 7, 649.	3.3	22
97	The Thermosensitive Potassium Channel TREK-1 Contributes to Coolness-Evoked Responses of Grueneberg Ganglion Neurons. Cellular and Molecular Neurobiology, 2014, 34, 113-122.	3.3	20
98	Receptor-mediated regulation of IsK, a very slowly activating, voltage-dependent K+ channel in Xenopus oocytes. Biochemical and Biophysical Research Communications, 1992, 184, 1135-1141.	2.1	19
99	Silent but not dumb: how cellular trafficking and pore gating modulate expression of TWIK1 and THIK2. Pflugers Archiv European Journal of Physiology, 2015, 467, 1121-1131.	2.8	18
100	Physiological roles of heteromerization: focus on the twoâ€pore domain potassium channels. Journal of Physiology, 2021, 599, 1041-1055.	2.9	16
101	An immunocytochemical study of a G-proteingated inward rectifier K+ channel (GIRK2) in the weaver mouse mesencephalon. NeuroReport, 1997, 8, 969-974.	1.2	15
102	Chapter 12 Potassium Channels with Two P Domains. Current Topics in Membranes, 1999, 46, 199-222.	0.9	15
103	Assignment of Human G-Protein-Coupled Inward Rectifier K+Channel Homolog GIRK3 Gene to Chromosome 1q21â€“q23. Genomics, 1995, 29, 808-809.	2.9	14
104	Assignment of the Human Weak Inward Rectifier K+Channel TWIK-1 Gene to Chromosome 1q42â€“q43. Genomics, 1996, 34, 153-155.	2.9	13
105	TREK1 channel activation as a new analgesic strategy devoid of opioid adverse effects. British Journal of Pharmacology, 2020, 177, 4782-4795.	5.4	13
106	Localization of TREK-1, a two-pore-domain K+ channel in the peripheral vestibular system of mouse and rat. Brain Research, 2004, 1017, 46-52.	2.2	12
107	Lack of p11 expression facilitates acidityâ€sensing function of TASK1 channels in mouse adrenal medullary cells. FASEB Journal, 2019, 33, 455-468.	0.5	12
108	Piezo1 and Piezo2 foster mechanical gating of K2P channels. Cell Reports, 2021, 37, 110070.	6.4	10

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109	Injection of a K+channel (Kv1.3) cRNA in fertilized eggs leads to functional expression in cultured myotomal muscle cells fromXenopusembryos. FEBS Letters, 1994, 348, 259-262.	2.8	7
110	Protein Complex Analysis of Native Brain Potassium Channels by Proteomics. Methods in Molecular Biology, 2008, 491, 113-123.	0.9	7
111	In cellulo phosphorylation induces pharmacological reprogramming of maurocalcin, a cell-penetrating venom peptide. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E2460-8.	7.1	7
112	A standardised hERG phenotyping pipeline to evaluate KCNH2 genetic variant pathogenicity. Clinical and Translational Medicine, 2021, 11, e609.	4.0	7
113	Molecular biology of voltageâ€gated K+ channels in heart. Fundamental and Clinical Pharmacology, 1994, 8, 108-116.	1.9	6
114	Abnormal respiration under hyperoxia in TASK-1/3 potassium channel double knockout mice. Respiratory Physiology and Neurobiology, 2017, 244, 17-25.	1.6	6
115	Two P domain potassium channels (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database. IUPHAR/BPS Guide To Pharmacology CITE, 2019, 2019, .	0.2	5
116	Convergence of Multiple Stimuli to a Single Gate in TREK1 and TRAAK Potassium Channels. Frontiers in Pharmacology, 2021, 12, 755826.	3.5	2
117	Membrane Trafficking Controls K2P1/TWIK1 Channel Expression at the Cell Surface. Biophysical Journal, 2010, 98, 537a.	0.5	0
118	Phospholipase D2 Specifically Regulates TREK Channels via Direct Interaction and Local Production of Phosphatidic Acid. Biophysical Journal, 2015, 108, 436a.	0.5	0
119	Heterodimerization of TALK Subunits. Biophysical Journal, 2020, 118, 416a.	0.5	0
120	Two P domain potassium channels in GtoPdb v.2021.2. IUPHAR/BPS Guide To Pharmacology CITE, 2021, 2021, .	0.2	0
121	Two-pore domain potassium channels (K_{2P}) in GtoPdb v.2021.3. IUPHAR/BPS Guide To Pharmacology CITE, 2021, 2021, .	0.2	0
122	An Ion Channel Chip for Diagnosis and Prognosis of Autoimmune Neurological Disorders. Recent Patents on CNS Drug Discovery, 2014, 8, 171-179.	0.9	0
123	TASKâ€2 channels contribute to pH sensitivity of retrotrapezoid nucleus chemoreceptor neurons (872.4). FASEB Journal, 2014, 28, 872.4.	0.5	0