

Ingo Dreyer

List of Publications by Year in descending order

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91
papers

7,055
citations

71102

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94
all docs

94
docs citations

94
times ranked

7097
citing authors

#	ARTICLE	IF	CITATIONS
1	The Selaginella Genome Identifies Genetic Changes Associated with the Evolution of Vascular Plants. <i>Science</i> , 2011, 332, 960-963.	12.6	794
2	NRT/PTR transporters are essential for translocation of glucosinolate defence compounds to seeds. <i>Nature</i> , 2012, 488, 531-534.	27.8	429
3	The Arabidopsis outward K ⁺ channel GORK is involved in regulation of stomatal movements and plant transpiration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 5549-5554.	7.1	388
4	PlnTFDB: an integrative plant transcription factor database. <i>BMC Bioinformatics</i> , 2007, 8, 42.	2.6	332
5	Calcium-dependent modulation and plasma membrane targeting of the AKT2 potassium channel by the CBL4/CIPK6 calcium sensor/protein kinase complex. <i>Cell Research</i> , 2011, 21, 1116-1130.	12.0	261
6	Potassium (K ⁺) gradients serve as a mobile energy source in plant vascular tissues. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 864-869.	7.1	255
7	Potassium channels in plant cells. <i>FEBS Journal</i> , 2011, 278, 4293-4303.	4.7	232
8	The twins K ⁺ and Na ⁺ in plants. <i>Journal of Plant Physiology</i> , 2014, 171, 723-731.	3.5	216
9	Electrical Wiring and Long-Distance Plant Communication. <i>Trends in Plant Science</i> , 2016, 21, 376-387.	8.8	204
10	Genome-wide analysis of ABA-responsive elements ABRE and CE3 reveals divergent patterns in Arabidopsis and rice. <i>BMC Genomics</i> , 2007, 8, 260.	2.8	159
11	Plant K ⁺ channel alpha-subunits assemble indiscriminately. <i>Biophysical Journal</i> , 1997, 72, 2143-2150.	0.5	154
12	Stomatal Guard Cells Co-opted an Ancient ABA-Dependent Desiccation Survival System to Regulate Stomatal Closure. <i>Current Biology</i> , 2015, 25, 928-935.	3.9	154
13	Heteromeric AtKC1 ^Δ -AKT1 Channels in Arabidopsis Roots Facilitate Growth under K ⁺ -limiting Conditions. <i>Journal of Biological Chemistry</i> , 2009, 284, 21288-21295.	3.4	152
14	External K ⁺ modulates the activity of the Arabidopsis potassium channel SKOR via an unusual mechanism. <i>Plant Journal</i> , 2006, 46, 269-281.	5.7	138
15	Plant adaptation to fluctuating environment and biomass production are strongly dependent on guard cell potassium channels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 5271-5276.	7.1	138
16	Molecular basis of plant-specific acid activation of K ⁺ uptake channels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 4806-4810.	7.1	133
17	The role of K ⁺ channels in uptake and redistribution of potassium in the model plant Arabidopsis thaliana. <i>Frontiers in Plant Science</i> , 2013, 4, 224.	3.6	133
18	Changes in voltage activation, Cs ⁺ sensitivity, and ion permeability in H5 mutants of the plant K ⁺ channel KAT1.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1996, 93, 8123-8128.	7.1	129

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19	A Minimal Cysteine Motif Required to Activate the SKOR K ⁺ Channel of Arabidopsis by the Reactive Oxygen Species H ₂ O ₂ [*] . Journal of Biological Chemistry, 2010, 285, 29286-29294.	3.4	111
20	Molecular Evolution of Slow and Quick Anion Channels (SLACs and QUACs/ALMTs). Frontiers in Plant Science, 2012, 3, 263.	3.6	104
21	What makes a gate? The ins and outs of Kv-like K ⁺ channels in plants. Trends in Plant Science, 2009, 14, 383-390.	8.8	98
22	The ALMT Family of Organic Acid Transporters in Plants and Their Involvement in Detoxification and Nutrient Security. Frontiers in Plant Science, 2016, 7, 1488.	3.6	98
23	The potassium battery: a mobile energy source for transport processes in plant vascular tissues. New Phytologist, 2017, 216, 1049-1053.	7.3	93
24	Phylogenetic Analysis of K ⁺ Transporters in Bryophytes, Lycophytes, and Flowering Plants Indicates a Specialization of Vascular Plants. Frontiers in Plant Science, 2012, 3, 167.	3.6	91
25	Inward rectifier potassium channels in plants differ from their animal counterparts in response to voltage and channel modulators. European Biophysics Journal, 1995, 24, 107-115.	2.2	90
26	Inward rectification of the AKT2 channel abolished by voltage-dependent phosphorylation. Plant Journal, 2005, 44, 783-797.	5.7	81
27	Assembly of Plant Shaker-Like Kout Channels Requires Two Distinct Sites of the Channel $\hat{\pm}$ -Subunit. Biophysical Journal, 2004, 87, 858-872.	0.5	70
28	A plant Shaker-like K ⁺ channel switches between two distinct gating modes resulting in either inward-rectifying or "leak" current. FEBS Letters, 2001, 505, 233-239.	2.8	69
29	Channel-mediated high-affinity K ⁺ uptake into guard cells from Arabidopsis. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 3298-3302.	7.1	66
30	Identification and characterization of plant transporters using heterologous expression systems. Journal of Experimental Botany, 1999, 50, 1073-1087.	4.8	66
31	Increased Functional Diversity of Plant K ⁺ Channels by Preferential Heteromerization of the Shaker-like Subunits AKT2 and KAT2. Journal of Biological Chemistry, 2007, 282, 486-494.	3.4	65
32	The Role of Potassium Channels in Arabidopsis thaliana Long Distance Electrical Signalling: AKT2 Modulates Tissue Excitability While GORK Shapes Action Potentials. International Journal of Molecular Sciences, 2018, 19, 926.	4.1	63
33	Roles of tandem-pore K ⁺ channels in plants "a puzzle still to be solved". Plant Biology, 2010, 12, 56-63.	3.8	62
34	<i>Serendipita indica</i> E5 ^{NT} modulates extracellular nucleotide levels in the plant apoplast and affects fungal colonization. EMBO Reports, 2019, 20, .	4.5	59
35	Heteromeric K ⁺ channels in plants. Plant Journal, 2008, 54, 1076-1082.	5.7	57
36	Preferential KAT1-KAT2 Heteromerization Determines Inward K ⁺ Current Properties in Arabidopsis Guard Cells. Journal of Biological Chemistry, 2010, 285, 6265-6274.	3.4	55

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37	A Unique Voltage Sensor Sensitizes the Potassium Channel AKT2 to Phosphoregulation. <i>Journal of General Physiology</i> , 2005, 126, 605-617.	1.9	54
38	Antarctic root endophytes improve physiological performance and yield in crops under salt stress by enhanced energy production and Na ⁺ sequestration. <i>Scientific Reports</i> , 2020, 10, 5819.	3.3	54
39	Functional, structural and phylogenetic analysis of domains underlying the A sensitivity of the aluminum-activated malate/anion transporter, TaALMT1. <i>Plant Journal</i> , 2013, 76, 766-780.	5.7	50
40	Cation sensitivity and kinetics of guard-cell potassium channels differ among species. <i>Planta</i> , 1998, 205, 277-287.	3.2	49
41	Mechanisms of ammonium transport, accumulation, and retention in oocytes and yeast cells expressing Arabidopsis AtAMT1;1. <i>FEBS Letters</i> , 2006, 580, 3931-3936.	2.8	48
42	Channelrhodopsin-mediated optogenetics highlights a central role of depolarization-dependent plant proton pumps. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 20920-20925.	7.1	46
43	The voltage-dependent potassium-uptake channel of corn coleoptiles has permeation properties different from other K ⁺ channels. <i>Planta</i> , 1995, 197, 193.	3.2	40
44	Pronounced differences between the native K ⁺ channels and KAT1 and KST1 $\hat{\pm}$ -subunit homomers of guard cells. <i>Planta</i> , 1999, 207, 370-376.	3.2	40
45	Voltage-dependent gating of SV channel TPC1 confers vacuole excitability. <i>Nature Communications</i> , 2019, 10, 2659.	12.8	40
46	Distinct roles of the last transmembrane domain in controlling <i>Arabidopsis</i> K ⁺ channel activity. <i>New Phytologist</i> , 2009, 182, 380-391.	7.3	38
47	Plant HKT Channels: An Updated View on Structure, Function and Gene Regulation. <i>International Journal of Molecular Sciences</i> , 2021, 22, 1892.	4.1	38
48	Luminal and Cytosolic pH Feedback on Proton Pump Activity and ATP Affinity of V-type ATPase from Arabidopsis. <i>Journal of Biological Chemistry</i> , 2012, 287, 8986-8993.	3.4	36
49	Cloning and functional characterization of HKT1 and AKT1 genes of <i>Fragaria</i> spp. Relationship to plant response to salt stress. <i>Journal of Plant Physiology</i> , 2017, 210, 9-17.	3.5	35
50	The Venus flytrap trigger hair-specific potassium channel KDM1 can reestablish the K ⁺ gradient required for hapto-electric signaling. <i>PLoS Biology</i> , 2020, 18, e3000964.	5.6	35
51	Plant Kin and Kout channels: Approaching the trait of opposite rectification by analyzing more than 250 KAT1-SKOR chimeras. <i>Biochemical and Biophysical Research Communications</i> , 2005, 332, 465-473.	2.1	33
52	The K ⁺ battery-regulating Arabidopsis K ⁺ channel AKT2 is under the control of multiple post-translational steps. <i>Plant Signaling and Behavior</i> , 2011, 6, 558-562.	2.4	30
53	Heteromerization of Arabidopsis Kv channel $\hat{\pm}$ -subunits. <i>Plant Signaling and Behavior</i> , 2008, 3, 622-625.	2.4	28
54	Single mutations strongly alter the K ⁺ -selective pore of the Kin channel KAT1. <i>FEBS Letters</i> , 1998, 430, 370-376.	2.8	26

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55	Cooperation through Competition—Dynamics and Microeconomics of a Minimal Nutrient Trade System in Arbuscular Mycorrhizal Symbiosis. <i>Frontiers in Plant Science</i> , 2016, 7, 912.	3.6	26
56	Modulation of the Arabidopsis KAT1 channel by an activator of protein kinase fC in <i>Xenopus laevis</i> oocytes. <i>FEBS Journal</i> , 2010, 277, 2318-2328.	4.7	25
57	The receptor-like pseudokinase MRH1 interacts with the voltage-gated potassium channel AKT2. <i>Scientific Reports</i> , 2017, 7, 44611.	3.3	25
58	How to Grow a Tree: Plant Voltage-Dependent Cation Channels in the Spotlight of Evolution. <i>Trends in Plant Science</i> , 2021, 26, 41-52.	8.8	24
59	Gating of the two-pore cation channel AtTPC1 in the plant vacuole is based on a single voltage-sensing domain. <i>Plant Biology</i> , 2016, 18, 750-760.	3.8	23
60	The putative K ⁺ channel subunit AtKCO3 forms stable dimers in Arabidopsis. <i>Frontiers in Plant Science</i> , 2012, 3, 251.	3.6	22
61	High- and Low-Affinity Transport in Plants From a Thermodynamic Point of View. <i>Frontiers in Plant Science</i> , 2019, 10, 1797.	3.6	22
62	Conformational Changes Represent the Rate-Limiting Step in the Transport Cycle of Maize SUCROSE TRANSPORTER1 Å. <i>Plant Cell</i> , 2013, 25, 3010-3021.	6.6	21
63	Voltage-Sensor Transitions of the Inward-Rectifying K ⁺ Channel KAT1 Indicate a Latching Mechanism Biased by Hydration within the Voltage Sensor Å Å. <i>Plant Physiology</i> , 2014, 166, 960-975.	4.8	21
64	Identification of Two Auxin-Regulated Potassium Transporters Involved in Seed Maturation. <i>International Journal of Molecular Sciences</i> , 2018, 19, 2132.	4.1	21
65	The Role of the C-Terminus for Functional Heteromerization of the Plant Channel KDC1. <i>Biophysical Journal</i> , 2009, 96, 4063-4074.	0.5	20
66	Distributed Structures Underlie Gating Differences between the Kin Channel KAT1 and the Kout Channel SKOR. <i>Molecular Plant</i> , 2010, 3, 236-245.	8.3	20
67	The pH sensor of the plant K ⁺ -uptake channel KAT1 is built from a sensory cloud rather than from single key amino acids. <i>Biochemical Journal</i> , 2012, 442, 57-63.	3.7	20
68	Nutrient cycling is an important mechanism for homeostasis in plant cells. <i>Plant Physiology</i> , 2021, 187, 2246-2261.	4.8	20
69	Orphan transcripts in Arabidopsis thaliana: identification of several hundred previously unrecognized genes. <i>Plant Journal</i> , 2005, 43, 205-212.	5.7	19
70	The fungal UmSrt1 and maize ZmSUT1 sucrose transporters battle for plant sugar resources. <i>Journal of Integrative Plant Biology</i> , 2017, 59, 422-435.	8.5	19
71	Nutrient exchange in arbuscular mycorrhizal symbiosis from a thermodynamic point of view. <i>New Phytologist</i> , 2019, 222, 1043-1053.	7.3	19
72	Mutational analysis of functional domains within plant K ⁺ uptake channels. <i>Journal of Experimental Botany</i> , 1997, 48, 415-420.	4.8	18

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73	A voltage-dependent Ca ²⁺ homeostat operates in the plant vacuolar membrane. <i>New Phytologist</i> , 2021, 230, 1449-1460.	7.3	18
74	K2P channels in plants and animals. <i>Pflügers Archiv European Journal of Physiology</i> , 2015, 467, 1091-1104.	2.8	17
75	Potassium (K ⁺) in plants. <i>Journal of Plant Physiology</i> , 2014, 171, 655.	3.5	14
76	Plant potassium channels are in general dual affinity uptake systems. <i>AIMS Biophysics</i> , 2017, 4, 90-106.	0.6	13
77	Outward Rectification of Voltage-Gated K ⁺ Channels Evolved at Least Twice in Life History. <i>PLoS ONE</i> , 2015, 10, e0137600.	2.5	12
78	Exploring the fundamental role of potassium channels in novel model plants. <i>Journal of Experimental Botany</i> , 2019, 70, 5985-5989.	4.8	12
79	An extracellular cation coordination site influences ion conduction of OsHKT2;2. <i>BMC Plant Biology</i> , 2019, 19, 316.	3.6	11
80	Computational Analyses of the AtTPC1 (Arabidopsis Two-Pore Channel 1) Permeation Pathway. <i>International Journal of Molecular Sciences</i> , 2021, 22, 10345.	4.1	11
81	PSC-db: A Structured and Searchable 3D-Database for Plant Secondary Compounds. <i>Molecules</i> , 2021, 26, 1124.	3.8	10
82	A synthetic multi-cellular network of coupled self-sustained oscillators. <i>PLoS ONE</i> , 2017, 12, e0180155.	2.5	7
83	Ion homeostasis: plants feel better with proper control. <i>EMBO Reports</i> , 2007, 8, 735-736.	4.5	6
84	6.10 Structure-Function Correlates in Plant Ion Channels. , 2012, , 234-245.		6
85	Transporter networks can serve plant cells as nutrient sensors and mimic transceptor-like behavior. <i>IScience</i> , 2022, 25, 104078.	4.1	5
86	Structural Insights into the Substrate Transport Mechanisms in GTR Transporters through Ensemble Docking. <i>International Journal of Molecular Sciences</i> , 2022, 23, 1595.	4.1	4
87	Identification of regions responsible for the function of the plant K ⁺ channels KAT1 and AKT2 in <i>Saccharomyces cerevisiae</i> and <i>Xenopus laevis</i> oocytes. <i>Channels</i> , 2017, 11, 510-516.	2.8	2
88	Potassium in plants - Still a hot topic. <i>Journal of Plant Physiology</i> , 2021, 261, 153435.	3.5	2
89	VFK1, a <i>Vicia faba</i> K ⁺ channel involved in phloem unloading. <i>Plant Journal</i> , 2001, 27, 571-580.	5.7	1
90	Regulation of the gating mode of the Arabidopsis K ⁺ channel AKT2 is important for adaptation to abiotic stress. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2009, 153, S191.	1.8	0

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91	Using Molecular Simulation and Quantum Mechanics tools to answer unsolved questions about gating of plant voltage gated potassium channels. Biophysical Journal, 2009, 96, 192a.	0.5	0