Ingo Dreyer

List of Publications by Year
in descending order

91 papers	7,055 citations	71102 41 h-index	60623 81 g-index
94 all docs	94 docs citations	94 times ranked	7097 citing authors

#	Article	IF	Citations
1	Structural Insights into the Substrate Transport Mechanisms in GTR Transporters through Ensemble Docking. International Journal of Molecular Sciences, 2022, 23, 1595.	4.1	4
2	Transporter networks can serve plant cells as nutrient sensors and mimic transceptor-like behavior. IScience, 2022, 25, 104078.	4.1	5
3	How to Grow a Tree: Plant Voltage-Dependent Cation Channels in the Spotlight of Evolution. Trends in Plant Science, 2021, 26, 41-52.	8.8	24
4	Plant HKT Channels: An Updated View on Structure, Function and Gene Regulation. International Journal of Molecular Sciences, 2021, 22, 1892.	4.1	38
5	PSC-db: A Structured and Searchable 3D-Database for Plant Secondary Compounds. Molecules, 2021, 26, 1124.	3.8	10
6	A voltageâ€dependent Ca²⁺ homeostat operates in the plant vacuolar membrane. New Phytologist, 2021, 230, 1449-1460.	7.3	18
7	Nutrient cycling is an important mechanism for homeostasis in plant cells. Plant Physiology, 2021, 187, 2246-2261.	4.8	20
8	Potassium in plants â€" Still a hot topic. Journal of Plant Physiology, 2021, 261, 153435.	3.5	2
9	Computational Analyses of the AtTPC1 (Arabidopsis Two-Pore Channel 1) Permeation Pathway. International Journal of Molecular Sciences, 2021, 22, 10345.	4.1	11
10	Channelrhodopsin-mediated optogenetics highlights a central role of depolarization-dependent plant proton pumps. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20920-20925.	7.1	46
11	Antarctic root endophytes improve physiological performance and yield in crops under salt stress by enhanced energy production and Na+ sequestration. Scientific Reports, 2020, 10, 5819.	3.3	54
12	The Venus flytrap trigger hairâ€"specific potassium channel KDM1 can reestablish the K+ gradient required for hapto-electric signaling. PLoS Biology, 2020, 18, e3000964.	5.6	35
13	An extracellular cation coordination site influences ion conduction of OsHKT2;2. BMC Plant Biology, 2019, 19, 316.	3.6	11
14	Voltage-dependent gating of SV channel TPC1 confers vacuole excitability. Nature Communications, 2019, 10, 2659.	12.8	40
15	Exploring the fundamental role of potassium channels in novel model plants. Journal of Experimental Botany, 2019, 70, 5985-5989.	4.8	12
16	Nutrient exchange in arbuscular mycorrhizal symbiosis from a thermodynamic point of view. New Phytologist, 2019, 222, 1043-1053.	7.3	19
17	<i>Serendipita indica</i> E5â€² <scp>NT</scp> modulates extracellular nucleotide levels in the plant apoplast and affects fungal colonization. EMBO Reports, 2019, 20, .	4.5	59
18	High- and Low-Affinity Transport in Plants From a Thermodynamic Point of View. Frontiers in Plant Science, 2019, 10, 1797.	3.6	22

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19	Identification of Two Auxin-Regulated Potassium Transporters Involved in Seed Maturation. International Journal of Molecular Sciences, 2018, 19, 2132.	4.1	21
20	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
21	The receptor-like pseudokinase MRH1 interacts with the voltage-gated potassium channel AKT2. Scientific Reports, 2017, 7, 44611.	3.3	25
22	The fungal UmSrt1 and maize ZmSUT1 sucrose transporters battle for plant sugar resources. Journal of Integrative Plant Biology, 2017, 59, 422-435.	8.5	19
23	Cloning and functional characterization of HKT1 and AKT1 genes of Fragaria spp.â€"Relationship to plant response to salt stress. Journal of Plant Physiology, 2017, 210, 9-17.	3.5	35
24	Identification of regions responsible for the function of the plant K+ channels KAT1 and AKT2 in Saccharomyces cerevisiae and Xenopus laevis oocytes. Channels, 2017, 11, 510-516.	2.8	2
25	The potassium battery: a mobile energy source for transport processes in plant vascular tissues. New Phytologist, 2017, 216, 1049-1053.	7.3	93
26	A synthetic multi-cellular network of coupled self-sustained oscillators. PLoS ONE, 2017, 12, e0180155.	2.5	7
27	Plant potassium channels are in general dual affinity uptake systems. AIMS Biophysics, 2017, 4, 90-106.	0.6	13
28	Cooperation through Competitionâ€"Dynamics and Microeconomics of a Minimal Nutrient Trade System in Arbuscular Mycorrhizal Symbiosis. Frontiers in Plant Science, 2016, 7, 912.	3.6	26
29	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
30	Gating of the twoâ€pore cation channel AtTPC1 in the plant vacuole is based on a single voltageâ€sensing domain. Plant Biology, 2016, 18, 750-760.	3.8	23
31	Electrical Wiring and Long-Distance Plant Communication. Trends in Plant Science, 2016, 21, 376-387.	8.8	204
32	Outward Rectification of Voltage-Gated K+ Channels Evolved at Least Twice in Life History. PLoS ONE, 2015, 10, e0137600.	2.5	12
33	Stomatal Guard Cells Co-opted an Ancient ABA-Dependent Desiccation Survival System to Regulate Stomatal Closure. Current Biology, 2015, 25, 928-935.	3.9	154
34	K2P channels in plants and animals. Pflugers Archiv European Journal of Physiology, 2015, 467, 1091-1104.	2.8	17
35	Voltage-Sensor Transitions of the Inward-Rectifying K+ Channel KAT1 Indicate a Latching Mechanism Biased by Hydration within the Voltage Sensor Â Â. Plant Physiology, 2014, 166, 960-975.	4.8	21
36	Potassium (K+) in plants. Journal of Plant Physiology, 2014, 171, 655.	3.5	14

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37	The twins K+ and Na+ in plants. Journal of Plant Physiology, 2014, 171, 723-731.	3.5	216
38	Functional, structural and phylogenetic analysis of domains underlying the <scp>A</scp>l sensitivity of the aluminumâ€activated malate/anion transporter, <scp>T</scp>a<scp>ALMT</scp>1. Plant Journal, 2013, 76, 766-780.	5.7	50
39	Conformational Changes Represent the Rate-Limiting Step in the Transport Cycle of Maize SUCROSE TRANSPORTER1 Â. Plant Cell, 2013, 25, 3010-3021.	6.6	21
40	The role of K+ channels in uptake and redistribution of potassium in the model plant Arabidopsis thaliana. Frontiers in Plant Science, 2013, 4, 224.	3.6	133
41	The putative K+ channel subunit AtKCO3 forms stable dimers in Arabidopsis. Frontiers in Plant Science, 2012, 3, 251.	3.6	22
42	Luminal and Cytosolic pH Feedback on Proton Pump Activity and ATP Affinity of V-type ATPase from Arabidopsis. Journal of Biological Chemistry, 2012, 287, 8986-8993.	3.4	36
43	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
44	Molecular Evolution of Slow and Quick Anion Channels (SLACs and QUACs/ALMTs). Frontiers in Plant Science, 2012, 3, 263.	3.6	104
45	The pH sensor of the plant K+-uptake channel KAT1 is built from a sensory cloud rather than from single key amino acids. Biochemical Journal, 2012, 442, 57-63.	3.7	20
46	6.10 Structureâ€“Function Correlates in Plant Ion Channels. , 2012, , 234-245.		6
47	NRT/PTR transporters are essential for translocation of glucosinolate defence compounds to seeds. Nature, 2012, 488, 531-534.	27.8	429
48	The Selaginella Genome Identifies Genetic Changes Associated with the Evolution of Vascular Plants. Science, 2011, 332, 960-963.	12.6	794
49	Potassium channels in plant cells. FEBS Journal, 2011, 278, 4293-4303.	4.7	232
50	Calcium-dependent modulation and plasma membrane targeting of the AKT2 potassium channel by the CBL4/CIPK6 calcium sensor/protein kinase complex. Cell Research, 2011, 21, 1116-1130.	12.0	261
51	Potassium (K ⁺) gradients serve as a mobile energy source in plant vascular tissues. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 864-869.	7.1	255
52	The K⁺ battery-regulating Arabidopsis K⁺ channel AKT2 is under the control of multiple post-translational steps. Plant Signaling and Behavior, 2011, 6, 558-562.	2.4	30
53	Modulation of the Arabidopsis KAT1 channel by an activator of protein kinaseâ€ƒC in <i>Xenopus</i>â€ƒ<i>laevis</i> oocytes. FEBS Journal, 2010, 277, 2318-2328.	4.7	25
54	Roles of tandemâ€pore K⁺ channels in plants â€“ a puzzle still to be solved*. Plant Biology, 2010, 12, 56-63.	3.8	62

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55	A Minimal Cysteine Motif Required to Activate the SKOR K+ Channel of Arabidopsis by the Reactive Oxygen Species H2O2*. Journal of Biological Chemistry, 2010, 285, 29286-29294.	3.4	111
56	Preferential KAT1-KAT2 Heteromerization Determines Inward K+ Current Properties in Arabidopsis Guard Cells. Journal of Biological Chemistry, 2010, 285, 6265-6274.	3.4	55
57	Distributed Structures Underlie Gating Differences between the Kin Channel KAT1 and the Kout Channel SKOR. Molecular Plant, 2010, 3, 236-245.	8.3	20
58	Heteromeric AtKC1Â·AKT1 Channels in Arabidopsis Roots Facilitate Growth under K+-limiting Conditions. Journal of Biological Chemistry, 2009, 284, 21288-21295.	3.4	152
59	Regulation of the gating mode of the Arabidopsis K+ channel AKT2 is important for adaptation to abiotic stress. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2009, 153, S191.	1.8	0
60	Distinct roles of the last transmembrane domain in controlling <i>Arabidopsis </i>K⁺ channel activity. New Phytologist, 2009, 182, 380-391.	7.3	38
61	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
62	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
63	The Role of the C-Terminus for Functional Heteromerization of the Plant Channel KDC1. Biophysical Journal, 2009, 96, 4063-4074.	0.5	20
64	Heteromeric K⁺ channels in plants. Plant Journal, 2008, 54, 1076-1082.	5.7	57
65	Heteromerization of Arabidopsis Kv channel Î±-subunits. Plant Signaling and Behavior, 2008, 3, 622-625.	2.4	28
66	Plant adaptation to fluctuating environment and biomass production are strongly dependent on guard cell potassium channels. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5271-5276.	7.1	138
67	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
68	Ion homeostasis: plants feel better with proper control. EMBO Reports, 2007, 8, 735-736.	4.5	6
69	PlnTFDB: an integrative plant transcription factor database. BMC Bioinformatics, 2007, 8, 42.	2.6	332
70	Genome-wide analysis of ABA-responsive elements ABRE and CE3 reveals divergent patterns in Arabidopsis and rice. BMC Genomics, 2007, 8, 260.	2.8	159
71	Mechanisms of ammonium transport, accumulation, and retention in ooyctes and yeast cells expressingArabidopsisAtAMT1;1. FEBS Letters, 2006, 580, 3931-3936.	2.8	48
72	External K+modulates the activity of the Arabidopsis potassium channel SKOR via an unusual mechanism. Plant Journal, 2006, 46, 269-281.	5.7	138

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73	Inward rectification of the AKT2 channel abolished by voltage-dependent phosphorylation. Plant Journal, 2005, 44, 783-797.	5.7	81
74	Orphan transcripts in Arabidopsis thaliana: identification of several hundred previously unrecognized genes. Plant Journal, 2005, 43, 205-212.	5.7	19
75	A Unique Voltage Sensor Sensitizes the Potassium Channel AKT2 to Phosphoregulation. Journal of General Physiology, 2005, 126, 605-617.	1.9	54
76	Plant Kin and Kout channels: Approaching the trait of opposite rectification by analyzing more than 250 KAT1â€“SKOR chimeras. Biochemical and Biophysical Research Communications, 2005, 332, 465-473.	2.1	33
77	Assembly of Plant Shaker-Like Kout Channels Requires Two Distinct Sites of the Channel Î±-Subunit. Biophysical Journal, 2004, 87, 858-872.	0.5	70
78	The Arabidopsis outward K+ channel GORK is involved in regulation of stomatal movements and plant transpiration. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5549-5554.	7.1	388
79	A plant Shaker-like K+ channel switches between two distinct gating modes resulting in either inward-rectifying or â€˜leakâ€™ current. FEBS Letters, 2001, 505, 233-239.	2.8	69
80	VFK1, a Vicia faba K+ channel involved in phloem unloading. Plant Journal, 2001, 27, 571-580.	5.7	1
81	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
82	Pronounced differences between the native K + channels and KAT1 and KST1 Î±-subunit homomers of guard cells. Planta, 1999, 207, 370-376.	3.2	40
83	Identification and characterization of plant transporters using heterologous expression systems. Journal of Experimental Botany, 1999, 50, 1073-1087.	4.8	66
84	Cation sensitivity and kinetics of guard-cell potassium channels differ among species. Planta, 1998, 205, 277-287.	3.2	49
85	Single mutations strongly alter the K+ -selective pore of the Kin channel KAT1. FEBS Letters, 1998, 430, 370-376.	2.8	26
86	Mutational analysis of functional domains within plant K+ uptake channels. Journal of Experimental Botany, 1997, 48, 415-420.	4.8	18
87	Plant K+ channel alpha-subunits assemble indiscriminately. Biophysical Journal, 1997, 72, 2143-2150.	0.5	154
88	Molecular basis of plant-specific acid activation of K+ uptake channels. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 4806-4810.	7.1	133
89	Changes in voltage activation, Cs+ sensitivity, and ion permeability in H5 mutants of the plant K+ channel KAT1.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 8123-8128.	7.1	129
90	Inward rectifier potassium channels in plants differ from their animal counterparts in response to voltage and channel modulators. European Biophysics Journal, 1995, 24, 107-15.	2.2	90

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91	The voltage-dependent potassium-uptake channel of corn coleoptiles has permeation properties different from other K+ channels. Planta, 1995, 197, 193.	3.2	40