

Rainer Hedrich

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

351
papers

24,246
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90
h-index

139
g-index

369
ext. papers

28,064
ext. citations

9
avg, IF

6.9
L-index

#	Paper	IF	Citations
351	Activity of guard cell anion channel SLAC1 is controlled by drought-stress signaling kinase-phosphatase pair. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 21425-30	11.5	635
350	Guard cell anion channel SLAC1 is regulated by CDPK protein kinases with distinct Ca ²⁺ affinities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 8023-8	11.5	412
349	A unified nomenclature of NITRATE TRANSPORTER 1/PEPTIDE TRANSPORTER family members in plants. <i>Trends in Plant Science</i> , 2014 , 19, 5-9	13.1	403
348	In the light of stomatal opening: new insights into the Watergate. <i>New Phytologist</i> , 2005 , 167, 665-91	9.8	369
347	proofread: large-scale high-accuracy PacBio correction through iterative short read consensus. <i>Bioinformatics</i> , 2014 , 30, 3004-11	7.2	350
346	The stomatal response to reduced relative humidity requires guard cell-autonomous ABA synthesis. <i>Current Biology</i> , 2013 , 23, 53-7	6.3	336
345	Cytoplasmic calcium regulates voltage-dependent ion channels in plant vacuoles. <i>Nature</i> , 1987 , 329, 833-836	50.4	335
344	Identification of a novel, multifunctional beta-defensin (human beta-defensin 3) with specific antimicrobial activity. Its interaction with plasma membranes of <i>Xenopus</i> oocytes and the induction of macrophage chemoattraction. <i>Cell and Tissue Research</i> , 2001 , 306, 257-64	4.2	313
343	NRT/PTR transporters are essential for translocation of glucosinolate defence compounds to seeds. <i>Nature</i> , 2012 , 488, 531-4	50.4	312
342	Ion channels in plants. <i>Physiological Reviews</i> , 2012 , 92, 1777-811	47.9	308
341	Stomatal closure by fast abscisic acid signaling is mediated by the guard cell anion channel SLAH3 and the receptor RCAR1. <i>Science Signaling</i> , 2011 , 4, ra32	8.8	272
340	Potassium-selective single channels in guard cell protoplasts of <i>Vicia faba</i> . <i>Nature</i> , 1984 , 312, 361-362	50.4	269
339	Auxin-induced K ⁺ channel expression represents an essential step in coleoptile growth and gravitropism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999 , 96, 12186-91	11.5	267
338	The Physiology of ION Channels and Electrogenic Pumps in Higher Plants. <i>Annual Review of Plant Biology</i> , 1989 , 40, 539-569		267
337	Advances and current challenges in calcium signaling. <i>New Phytologist</i> , 2018 , 218, 414-431	9.8	263
336	Perception of the Arabidopsis danger signal peptide 1 involves the pattern recognition receptor AtPEPR1 and its close homologue AtPEPR2. <i>Journal of Biological Chemistry</i> , 2010 , 285, 13471-9	5.4	258
335	AtALMT12 represents an R-type anion channel required for stomatal movement in Arabidopsis guard cells. <i>Plant Journal</i> , 2010 , 63, 1054-62	6.9	255

334	GORK, a delayed outward rectifier expressed in guard cells of <i>Arabidopsis thaliana</i> , is a K(+)-selective, K(+)-sensing ion channel. <i>FEBS Letters</i> , 2000 , 486, 93-8	3.8	254
333	<i>Arabidopsis</i> V-ATPase activity at the tonoplast is required for efficient nutrient storage but not for sodium accumulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 3251-6	11.5	239
332	Stretch-activated chloride, potassium, and calcium channels coexisting in plasma membranes of guard cells of <i>Vicia faba</i> L. <i>Planta</i> , 1991 , 186, 143-53	4.7	237
331	An RLP23-SOBIR1-BAK1 complex mediates NLP-triggered immunity. <i>Nature Plants</i> , 2015 , 1, 15140	11.5	215
330	The Chara Genome: Secondary Complexity and Implications for Plant Terrestrialization. <i>Cell</i> , 2018 , 174, 448-464.e24	56.2	213
329	KAT1 is not essential for stomatal opening. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001 , 98, 2917-21	11.5	210
328	The <i>Nicotiana tabacum</i> plasma membrane aquaporin NtAQP1 is mercury-insensitive and permeable for glycerol. <i>Plant Journal</i> , 1999 , 18, 565-70	6.9	210
327	Ca ²⁺ and nucleotide dependent regulation of voltage dependent anion channels in the plasma membrane of guard cells.. <i>EMBO Journal</i> , 1990 , 9, 3889-3892	13	206
326	Loss of the AKT2/3 potassium channel affects sugar loading into the phloem of <i>Arabidopsis</i> . <i>Planta</i> , 2002 , 216, 334-44	4.7	196
325	Plasma membrane aquaporins in the motor cells of <i>Samanea saman</i> : diurnal and circadian regulation. <i>Plant Cell</i> , 2002 , 14, 727-39	11.6	192
324	Identification of a new glucosinolate-rich cell type in <i>Arabidopsis</i> flower stalk. <i>Plant Physiology</i> , 2000 , 124, 599-608	6.6	192
323	Involvement of ion channels and active transport in osmoregulation and signaling of higher plant cells. <i>Trends in Biochemical Sciences</i> , 1989 , 14, 187-92	10.3	190
322	AtKC1, a silent <i>Arabidopsis</i> potassium channel alpha -subunit modulates root hair K ⁺ influx. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 4079-84	11.5	187
321	Salt bladders: do they matter?. <i>Trends in Plant Science</i> , 2014 , 19, 687-91	13.1	186
320	Receptor-mediated activation of a plant Ca ²⁺ -permeable ion channel involved in pathogen defense. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997 , 94, 2751-5	11.5	185
319	Voltage-dependent anion channels in the plasma membrane of guard cells. <i>Nature</i> , 1989 , 341, 450-453	50.4	181
318	AKT3, a phloem-localized K ⁺ channel, is blocked by protons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999 , 96, 7581-6	11.5	174
317	Early signaling through the <i>Arabidopsis</i> pattern recognition receptors FLS2 and EFR involves Ca-associated opening of plasma membrane anion channels. <i>Plant Journal</i> , 2010 , 62, 367-78	6.9	172

316	Phloem-localized, proton-coupled sucrose carrier ZmSUT1 mediates sucrose efflux under the control of the sucrose gradient and the proton motive force. <i>Journal of Biological Chemistry</i> , 2005 , 280, 21437-43	5.4	164
315	Cytosolic abscisic acid activates guard cell anion channels without preceding Ca ²⁺ signals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 4203-8	11.5	161
314	Proton-driven sucrose symport and antiport are provided by the vacuolar transporters SUC4 and TMT1/2. <i>Plant Journal</i> , 2011 , 68, 129-36	6.9	160
313	Characterization of the plasma-membrane H ⁽⁺⁾ -ATPase from <i>Vicia faba</i> guard cells : Modulation by extracellular factors and seasonal changes. <i>Planta</i> , 1992 , 188, 206-14	4.7	160
312	The identity of plant glutamate receptors. <i>Science</i> , 2001 , 292, 1486-7	33.3	155
311	K ⁽⁺⁾ channel profile and electrical properties of <i>Arabidopsis</i> root hairs. <i>FEBS Letters</i> , 2001 , 508, 463-9	3.8	153
310	<i>Arabidopsis</i> nanodomain-delimited ABA signaling pathway regulates the anion channel SLAH3. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 8296-301	11.5	151
309	Plant K ⁺ channel alpha-subunits assemble indiscriminately. <i>Biophysical Journal</i> , 1997 , 72, 2143-50	2.9	151
308	Aluminum activates a citrate-permeable anion channel in the aluminum-sensitive zone of the maize root apex. A comparison between an aluminum-sensitive and an aluminum-resistant cultivar. <i>Plant Physiology</i> , 2001 , 126, 397-410	6.6	150
307	Loss of the vacuolar cation channel, AtTPC1, does not impair Ca ²⁺ signals induced by abiotic and biotic stresses. <i>Plant Journal</i> , 2008 , 53, 287-99	6.9	147
306	Plant growth hormones control voltage-dependent activity of anion channels in plasma membrane of guard cells. <i>Nature</i> , 1991 , 353, 758-762	50.4	146
305	Elevated CO ₂ -Induced Responses in Stomata Require ABA and ABA Signaling. <i>Current Biology</i> , 2015 , 25, 2709-16	6.3	142
304	Blue light activates calcium-permeable channels in <i>Arabidopsis</i> mesophyll cells via the phototropin signaling pathway. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 1456-61	11.5	142
303	Identification of <i>Arabidopsis thaliana</i> phloem RNAs provides a search criterion for phloem-based transcripts hidden in complex datasets of microarray experiments. <i>Plant Journal</i> , 2008 , 55, 746-59	6.9	140
302	Open stomata 1 (OST1) kinase controls R-type anion channel QUAC1 in <i>Arabidopsis</i> guard cells. <i>Plant Journal</i> , 2013 , 74, 372-82	6.9	139
301	Cloning and electrophysiological analysis of KST1, an inward rectifying K ⁺ channel expressed in potato guard cells.. <i>EMBO Journal</i> , 1995 , 14, 2409-2416	13	137
300	Heteromeric AtKC1{middle dot}AKT1 channels in <i>Arabidopsis</i> roots facilitate growth under K ⁺ -limiting conditions. <i>Journal of Biological Chemistry</i> , 2009 , 284, 21288-95	5.4	133
299	AtGLR3.4, a glutamate receptor channel-like gene is sensitive to touch and cold. <i>Planta</i> , 2005 , 222, 418-27.7		131

298	Site- and kinase-specific phosphorylation-mediated activation of SLAC1, a guard cell anion channel stimulated by abscisic acid. <i>Science Signaling</i> , 2014 , 7, ra86	8.8	130
297	Salt stress triggers phosphorylation of the Arabidopsis vacuolar K ⁺ channel TPK1 by calcium-dependent protein kinases (CDPKs). <i>Molecular Plant</i> , 2013 , 6, 1274-1289	14.4	129
296	Malate-sensitive anion channels enable guard cells to sense changes in the ambient CO ₂ concentration. <i>Plant Journal</i> , 1994 , 6, 741-748	6.9	128
295	TPC1-SV channels gain shape. <i>Molecular Plant</i> , 2011 , 4, 428-41	14.4	126
294	Agrobacterium tumefaciens promotes tumor induction by modulating pathogen defense in Arabidopsis thaliana. <i>Plant Cell</i> , 2009 , 21, 2948-62	11.6	123
293	Electrical Wiring and Long-Distance Plant Communication. <i>Trends in Plant Science</i> , 2016 , 21, 376-387	13.1	122
292	Malate-induced feedback regulation of plasma membrane anion channels could provide a CO ₂ sensor to guard cells.. <i>EMBO Journal</i> , 1993 , 12, 897-901	13	122
291	Rice K ⁺ uptake channel OsAKT1 is sensitive to salt stress. <i>Planta</i> , 2005 , 221, 212-21	4.7	120
290	AtTPK4, an Arabidopsis tandem-pore K ⁺ channel, poised to control the pollen membrane voltage in a pH- and Ca ²⁺ -dependent manner. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 15621-6	11.5	119
289	Increased activity of the vacuolar monosaccharide transporter TMT1 alters cellular sugar partitioning, sugar signaling, and seed yield in Arabidopsis. <i>Plant Physiology</i> , 2010 , 154, 665-77	6.6	118
288	TPK1, a Ca(2+)-regulated Arabidopsis vacuole two-pore K(+) channel is activated by 14-3-3 proteins. <i>Plant Journal</i> , 2007 , 52, 449-59	6.9	118
287	Ca ²⁺ and nucleotide dependent regulation of voltage dependent anion channels in the plasma membrane of guard cells. <i>EMBO Journal</i> , 1990 , 9, 3889-92	13	118
286	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, 4806-10	11.5	117
285	Regulation of the ABA-sensitive Arabidopsis potassium channel gene GORK in response to water stress. <i>FEBS Letters</i> , 2003 , 554, 119-26	3.8	117
284	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, 8123-8	11.5	117
283	Simultaneous and independent effects of abscisic acid on stomata and the photosynthetic apparatus in whole leaves. <i>Planta</i> , 1985 , 163, 105-18	4.7	117
282	A voltage-dependent chloride channel in the photosynthetic membrane of a higher plant. <i>Nature</i> , 1988 , 336, 589-592	50.4	115
281	CO ₂ provides an intermediate link in the red light response of guard cells. <i>Plant Journal</i> , 2002 , 32, 65-75.6.9		114

280	Stomatal guard cells co-opted an ancient ABA-dependent desiccation survival system to regulate stomatal closure. <i>Current Biology</i> , 2015 , 25, 928-35	6.3	113
279	Arabidopsis POLYOL TRANSPORTER5, a new member of the monosaccharide transporter-like superfamily, mediates H ⁺ -Symport of numerous substrates, including myo-inositol, glycerol, and ribose. <i>Plant Cell</i> , 2005 , 17, 204-18	11.6	109
278	General Mechanisms for Solute Transport Across the Tonoplast of Plant Vacuoles: a Patch-Clamp Survey of Ion Channels and Proton Pumps. <i>Botanica Acta</i> , 1988 , 101, 7-13		108
277	Identification of the transporter responsible for sucrose accumulation in sugar beet taproots. <i>Nature Plants</i> , 2015 , 1, 14001	11.5	107
276	Patch-clamp studies of ion transport in isolated plant vacuoles. <i>FEBS Letters</i> , 1986 , 204, 228-232	3.8	106
275	Anion channels: master switches of stress responses. <i>Trends in Plant Science</i> , 2012 , 17, 221-9	13.1	105
274	A high-quality genome assembly of quinoa provides insights into the molecular basis of salt bladder-based salinity tolerance and the exceptional nutritional value. <i>Cell Research</i> , 2017 , 27, 1327-1340	24.7	104
273	Diurnal and light-regulated expression of AtSTP1 in guard cells of Arabidopsis. <i>Plant Physiology</i> , 2003 , 133, 528-37	6.6	102
272	Slowly activating vacuolar channels can not mediate Ca ²⁺ -induced Ca ²⁺ release. <i>Plant Journal</i> , 1997 , 12, 1387-1398	6.9	100
271	Multiple calcium-dependent kinases modulate ABA-activated guard cell anion channels. <i>Molecular Plant</i> , 2012 , 5, 1409-12	14.4	99
270	Vacuoles release sucrose via tonoplast-localised SUC4-type transporters. <i>Plant Biology</i> , 2012 , 14, 325-363	3.7	98
269	Pollen tube growth regulation by free anions depends on the interaction between the anion channel SLAH3 and calcium-dependent protein kinases CPK2 and CPK20. <i>Plant Cell</i> , 2013 , 25, 4525-43	11.6	98
268	A special pair of phytohormones controls excitability, slow closure, and external stomach formation in the Venus flytrap. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 15492-7	11.5	98
267	The fou2 mutation in the major vacuolar cation channel TPC1 confers tolerance to inhibitory luminal calcium. <i>Plant Journal</i> , 2009 , 58, 715-23	6.9	97
266	ABA depolarizes guard cells in intact plants, through a transient activation of R- and S-type anion channels. <i>Plant Journal</i> , 2004 , 37, 578-88	6.9	96
265	AUX1-mediated root hair auxin influx governs SCF-type Ca signaling. <i>Nature Communications</i> , 2018 , 9, 1174	17.4	93
264	The Venus Flytrap <i>Dionaea muscipula</i> Counts Prey-Induced Action Potentials to Induce Sodium Uptake. <i>Current Biology</i> , 2016 , 26, 286-95	6.3	92
263	An integrated view of gene expression and solute profiles of Arabidopsis tumors: a genome-wide approach. <i>Plant Cell</i> , 2006 , 18, 3617-34	11.6	92

262	The role of ion channels in light-dependent stomatal opening. <i>Journal of Experimental Botany</i> , 2001 , 52, 1959-67	7	90
261	Guard cell SLAC1-type anion channels mediate flagellin-induced stomatal closure. <i>New Phytologist</i> , 2015 , 208, 162-73	9.8	89
260	Protons and calcium modulate SV-type channels in the vacuolar-lysosomal compartment Cl^- channel interaction with calmodulin inhibitors. <i>Planta</i> , 1995 , 197, 655	4.7	84
259	The calcium-permeable channel OSCA1.3 regulates plant stomatal immunity. <i>Nature</i> , 2020 , 585, 569-573	50.4	84
258	Molecular Evolution of Slow and Quick Anion Channels (SLACs and QUACs/ALMTs). <i>Frontiers in Plant Science</i> , 2012 , 3, 263	6.2	83
257	Auxin activates KAT1 and KAT2, two K ⁺ -channel genes expressed in seedlings of <i>Arabidopsis thaliana</i> . <i>Plant Journal</i> , 2004 , 37, 815-27	6.9	83
256	Isolation of AtSUC2 promoter-GFP-marked companion cells for patch-clamp studies and expression profiling. <i>Plant Journal</i> , 2003 , 36, 931-45	6.9	83
255	Cold transiently activates calcium-permeable channels in <i>Arabidopsis</i> mesophyll cells. <i>Plant Physiology</i> , 2007 , 143, 487-94	6.6	82
254	A novel calcium binding site in the slow vacuolar cation channel TPC1 senses luminal calcium levels. <i>Plant Cell</i> , 2011 , 23, 2696-707	11.6	81
253	Diurnal and circadian regulation of putative potassium channels in a leaf moving organ. <i>Plant Physiology</i> , 2002 , 128, 634-42	6.6	81
252	Poplar potassium transporters capable of controlling K ⁺ homeostasis and K ⁺ -dependent xylogenesis. <i>Plant Journal</i> , 2002 , 32, 997-1009	6.9	79
251	Single guard cell recordings in intact plants: light-induced hyperpolarization of the plasma membrane. <i>Plant Journal</i> , 2001 , 26, 1-13	6.9	78
250	Sugar transport across the plant vacuolar membrane: nature and regulation of carrier proteins. <i>Current Opinion in Plant Biology</i> , 2015 , 25, 63-70	9.9	77
249	The K ⁺ channel KZM1 mediates potassium uptake into the phloem and guard cells of the C4 grass <i>Zea mays</i> . <i>Journal of Biological Chemistry</i> , 2003 , 278, 16973-81	5.4	74
248	K ⁺ currents through SV-type vacuolar channels are sensitive to elevated luminal sodium levels. <i>Plant Journal</i> , 2005 , 41, 606-14	6.9	74
247	Exploring Biophysical and Biochemical Components of the Osmotic Motor that Drives Stomatal Movement*. <i>Botanica Acta</i> , 1988 , 101, 283-294		74
246	Ca ²⁺ -dependent and -independent abscisic acid activation of plasma membrane anion channels in guard cells of <i>Nicotiana tabacum</i> . <i>Plant Physiology</i> , 2007 , 143, 28-37	6.6	73
245	VFK1, a <i>Vicia faba</i> K ⁺ channel involved in phloem unloading. <i>Plant Journal</i> , 2001 , 27, 571-580	6.9	73

244	Calcium sensor kinase activates potassium uptake systems in gland cells of Venus flytraps. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 7309-14	11.5	72
243	Stomatal action directly feeds back on leaf turgor: new insights into the regulation of the plant water status from non-invasive pressure probe measurements. <i>Plant Journal</i> , 2010 , 62, 1072-82	6.9	71
242	Guard cells in albino leaf patches do not respond to photosynthetically active radiation, but are sensitive to blue light, CO ₂ and abscisic acid. <i>Plant, Cell and Environment</i> , 2006 , 29, 1595-605	8.4	71
241	Differential expression of sucrose transporter and polyol transporter genes during maturation of common plantain companion cells. <i>Plant Physiology</i> , 2004 , 134, 147-60	6.6	70
240	Changes in apoplastic pH and membrane potential in leaves in relation to stomatal responses to CO ₂ , malate, abscisic acid or interruption of water supply. <i>Planta</i> , 2001 , 213, 594-601	4.7	70
239	GCAC1 recognizes the pH gradient across the plasma membrane: a pH-sensitive and ATP-dependent anion channel links guard cell membrane potential to acid and energy metabolism. <i>Plant Journal</i> , 1996 , 10, 993-1004	6.9	69
238	Malate-induced feedback regulation of plasma membrane anion channels could provide a CO ₂ sensor to guard cells. <i>EMBO Journal</i> , 1993 , 12, 897-901	13	69
237	Blue light inhibits guard cell plasma membrane anion channels in a phototropin-dependent manner. <i>Plant Journal</i> , 2007 , 50, 29-39	6.9	68
236	Developmental and light-dependent regulation of a phloem-localised K ⁺ channel of <i>Arabidopsis thaliana</i> . <i>Plant Journal</i> , 2000 , 23, 285-90	6.9	68
235	Inward rectifier potassium channels in plants differ from their animal counterparts in response to voltage and channel modulators. <i>European Biophysics Journal</i> , 1995 , 24, 107-15	1.9	68
234	Cloning and electrophysiological analysis of KST1, an inward rectifying K ⁺ channel expressed in potato guard cells. <i>EMBO Journal</i> , 1995 , 14, 2409-16	13	68
233	Biology of SLAC1-type anion channels - from nutrient uptake to stomatal closure. <i>New Phytologist</i> , 2017 , 216, 46-61	9.8	67
232	New approach of monitoring changes in chlorophyll a fluorescence of single guard cells and protoplasts in response to physiological stimuli. <i>Plant, Cell and Environment</i> , 1999 , 22, 1057-1070	8.4	66
231	Ion channels and ATP-driven pumps involved in ion transport across the tonoplast of sugarbeet vacuoles. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 1987 , 902, 263-268	3.8	66
230	Making sense out of Ca ²⁺ signals: their role in regulating stomatal movements. <i>Plant, Cell and Environment</i> , 2010 , 33, 305-21	8.4	65
229	Dynamics of ionic activities in the apoplast of the sub-stomatal cavity of intact <i>Vicia faba</i> leaves during stomatal closure evoked by ABA and darkness. <i>Plant Journal</i> , 2000 , 24, 297-304	6.9	65
228	Silent S-Type Anion Channel Subunit SLAH1 Gates SLAH3 Open for Chloride Root-to-Shoot Translocation. <i>Current Biology</i> , 2016 , 26, 2213-20	6.3	65
227	Abscisic acid controlled sex before transpiration in vascular plants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 12862-12867	11.5	64

226	Channel-mediated high-affinity K ⁺ uptake into guard cells from Arabidopsis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999 , 96, 3298-302	11.5	64
225	Channel-mediated K ⁽⁺⁾ flux in barley aleurone protoplasts. <i>Planta</i> , 1988 , 176, 368-77	4.7	64
224	Characterization of an anion-permeable channel from sugar beet vacuoles: effect of inhibitors. <i>EMBO Journal</i> , 1988 , 7, 3661-3666	13	64
223	The protein composition of the digestive fluid from the venus flytrap sheds light on prey digestion mechanisms. <i>Molecular and Cellular Proteomics</i> , 2012 , 11, 1306-19	7.6	63
222	Arabidopsis INOSITOL TRANSPORTER4 mediates high-affinity H ⁺ symport of myoinositol across the plasma membrane. <i>Plant Physiology</i> , 2006 , 141, 565-77	6.6	63
221	Functional and physiological characterization of Arabidopsis INOSITOL TRANSPORTER1, a novel tonoplast-localized transporter for myo-inositol. <i>Plant Cell</i> , 2008 , 20, 1073-87	11.6	62
220	Comparative studies on the electrical properties of the H ⁺ translocating ATPase and pyrophosphatase of the vacuolar-lysosomal compartment.. <i>EMBO Journal</i> , 1989 , 8, 2835-2841	13	62
219	Epidermal bladder cells confer salinity stress tolerance in the halophyte quinoa and <i>Atriplex</i> species. <i>Plant, Cell and Environment</i> , 2017 , 40, 1900-1915	8.4	61
218	Salt stress affects xylem differentiation of grey poplar (<i>Populus x canescens</i>). <i>Planta</i> , 2009 , 229, 299-309	4.7	60
217	Differential expression and regulation of K ⁽⁺⁾ channels in the maize coleoptile: molecular and biophysical analysis of cells isolated from cortex and vasculature. <i>Plant Journal</i> , 2000 , 24, 139-45	6.9	60
216	Venus flytrap carnivorous lifestyle builds on herbivore defense strategies. <i>Genome Research</i> , 2016 , 26, 812-25	9.7	60
215	Silencing of NtMPK4 impairs CO ₂ -induced stomatal closure, activation of anion channels and cytosolic Ca ²⁺ signals in <i>Nicotiana tabacum</i> guard cells. <i>Plant Journal</i> , 2008 , 55, 698-708	6.9	59
214	Targeting of vacuolar membrane localized members of the TPK channel family. <i>Molecular Plant</i> , 2008 , 1, 938-49	14.4	59
213	AKT2/3 subunits render guard cell K ⁺ channels Ca ²⁺ sensitive. <i>Journal of General Physiology</i> , 2005 , 125, 483-92	3.4	59
212	A role for fructose 2,6-bisphosphate in regulating carbohydrate metabolism in guard cells. <i>Plant Physiology</i> , 1985 , 79, 977-82	6.6	59
211	Effectiveness of cuticular transpiration barriers in a desert plant at controlling water loss at high temperatures. <i>AoB PLANTS</i> , 2016 , 8,	2.9	58
210	Blue light regulates an auxin-induced K ⁺ -channel gene in the maize coleoptile. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 11795-800	11.5	58
209	Green circuits--the potential of plant specific ion channels. <i>Plant Molecular Biology</i> , 1994 , 26, 1637-50	4.6	58

208	Understanding the Molecular Basis of Salt Sequestration in Epidermal Bladder Cells of <i>Chenopodium quinoa</i> . <i>Current Biology</i> , 2018 , 28, 3075-3085.e7	6.3	57
207	Venus Flytrap: How an Excitable, Carnivorous Plant Works. <i>Trends in Plant Science</i> , 2018 , 23, 220-234	13.1	56
206	Two fatty acid desaturases, STEAROYL-ACYL CARRIER PROTEIN β -DESATURASE6 and FATTY ACID DESATURASE3, are involved in drought and hypoxia stress signaling in <i>Arabidopsis</i> crown galls. <i>Plant Physiology</i> , 2014 , 164, 570-83	6.6	56
205	The Venus flytrap attracts insects by the release of volatile organic compounds. <i>Journal of Experimental Botany</i> , 2014 , 65, 755-66	7	55
204	A central role of abscisic acid in drought stress protection of <i>Agrobacterium</i> -induced tumors on <i>Arabidopsis</i> . <i>Plant Physiology</i> , 2007 , 145, 853-62	6.6	55
203	Drought-Enhanced Xylem Sap Sulfate Closes Stomata by Affecting ALMT12 and Guard Cell ABA Synthesis. <i>Plant Physiology</i> , 2017 , 174, 798-814	6.6	54
202	Single channel recordings of reconstituted ion channel proteins: an improved technique. <i>Pflügers Archiv European Journal of Physiology</i> , 1988 , 411, 94-100	4.6	54
201	The Receptor-like Pseudokinase GHR1 Is Required for Stomatal Closure. <i>Plant Cell</i> , 2018 , 30, 2813-2837	11.6	54
200	A Single-Pore Residue Renders the <i>Arabidopsis</i> Root Anion Channel SLAH2 Highly Nitrate Selective. <i>Plant Cell</i> , 2014 , 26, 2554-2567	11.6	53
199	Plant cells must pass a K ⁺ threshold to re-enter the cell cycle. <i>Plant Journal</i> , 2007 , 50, 401-13	6.9	53
198	Identification and modulation of a voltage-dependent anion channel in the plasma membrane of guard cells by high-affinity ligands.. <i>EMBO Journal</i> , 1992 , 11, 3569-3575	13	51
197	Distinct molecular bases for pH sensitivity of the guard cell K ⁺ channels KST1 and KAT1. <i>Journal of Biological Chemistry</i> , 1999 , 274, 11599-603	5.4	50
196	The role of <i>Arabidopsis</i> ABA receptors from the PYR/PYL/RCAR family in stomatal acclimation and closure signal integration. <i>Nature Plants</i> , 2019 , 5, 1002-1011	11.5	49
195	Stomata in a saline world. <i>Current Opinion in Plant Biology</i> , 2018 , 46, 87-95	9.9	49
194	Studying guard cells in the intact plant: modulation of stomatal movement by apoplastic factors. <i>New Phytologist</i> , 2002 , 153, 425-431	9.8	49
193	<i>Arabidopsis thaliana</i> POLYOL/MONOSACCHARIDE TRANSPORTERS 1 and 2: fructose and xylitol/H ⁺ symporters in pollen and young xylem cells. <i>Journal of Experimental Botany</i> , 2010 , 61, 537-50	7	48
192	Calcium signaling networks channel plant K ⁺ uptake. <i>Cell</i> , 2006 , 125, 1221-3	56.2	48
191	KCO1 is a component of the slow-vacuolar (SV) ion channel. <i>FEBS Letters</i> , 2002 , 511, 28-32	3.8	48

190	Sulfate is Incorporated into Cysteine to Trigger ABA Production and Stomatal Closure. <i>Plant Cell</i> , 2018 , 30, 2973-2987	11.6	48
189	A member of the mitogen-activated protein 3-kinase family is involved in the regulation of plant vacuolar glucose uptake. <i>Plant Journal</i> , 2011 , 68, 890-900	6.9	47
188	α-amylase1 mutant Arabidopsis plants show improved drought tolerance due to reduced starch breakdown in guard cells. <i>Journal of Experimental Botany</i> , 2015 , 66, 6059-67	7	46
187	Cation sensitivity and kinetics of guard-cell potassium channels differ among species. <i>Planta</i> , 1998 , 205, 277-287	4.7	46
186	Secondary phenolic products in isolated guard cell, epidermal cell and mesophyll cell protoplasts from pea (<i>Pisum sativum</i> L.) leaves: Distribution and determination. <i>Protoplasma</i> , 1986 , 134, 141-148	3.4	46
185	Expression of the NH ₄ ⁺ -transporter gene LEAMT1;2 is induced in tomato roots upon association with N ₂ -fixing bacteria. <i>Planta</i> , 2002 , 215, 424-9	4.7	45
184	pH regulation in apoplastic and cytoplasmic cell compartments of leaves. <i>Planta</i> , 2000 , 211, 246-55	4.7	45
183	The <i>Dionaea muscipula</i> ammonium channel DmAMT1 provides NH ₄ ⁺ uptake associated with Venus flytrap prey digestion. <i>Current Biology</i> , 2013 , 23, 1649-57	6.3	44
182	The desert plant <i>Phoenix dactylifera</i> closes stomata via nitrate-regulated SLAC1 anion channel. <i>New Phytologist</i> , 2017 , 216, 150-162	9.8	44
181	Overexpression of a proton-coupled vacuolar glucose exporter impairs freezing tolerance and seed germination. <i>New Phytologist</i> , 2014 , 202, 188-197	9.8	44
180	Anions permeate and gate GCAC1, a voltage-dependent guard cell anion channel. <i>Plant Journal</i> , 1998 , 15, 479-487	6.9	44
179	DNA methylation mediated control of gene expression is critical for development of crown gall tumors. <i>PLoS Genetics</i> , 2013 , 9, e1003267	6	43
178	A mechanism of growth inhibition by abscisic acid in germinating seeds of <i>Arabidopsis thaliana</i> based on inhibition of plasma membrane H ⁺ -ATPase and decreased cytosolic pH, K ⁺ , and anions. <i>Journal of Experimental Botany</i> , 2015 , 66, 813-25	7	42
177	Foliar water supply of tall trees: evidence for mucilage-facilitated moisture uptake from the atmosphere and the impact on pressure bomb measurements. <i>Protoplasma</i> , 2007 , 232, 11-34	3.4	42
176	The use of voltage-sensitive dyes to monitor signal-induced changes in membrane potential-ABA triggered membrane depolarization in guard cells. <i>Plant Journal</i> , 2008 , 55, 161-73	6.9	41
175	The pore of plant K ⁺ channels is involved in voltage and pH sensing: domain-swapping between different K ⁺ channel alpha-subunits. <i>Plant Cell</i> , 2001 , 13, 943-52	11.6	41
174	Comparative studies on the electrical properties of the H ⁺ translocating ATPase and pyrophosphatase of the vacuolar-lysosomal compartment. <i>EMBO Journal</i> , 1989 , 8, 2835-41	13	41
173	Comparing Arabidopsis receptor kinase and receptor protein-mediated immune signaling reveals BIK1-dependent differences. <i>New Phytologist</i> , 2019 , 221, 2080-2095	9.8	41

172	A Poly(A) Ribonuclease Controls the Cellotriose-Based Interaction between and Its Host Arabidopsis. <i>Plant Physiology</i> , 2018 , 176, 2496-2514	6.6	40
171	Outer pore residues control the H(+) and K(+) sensitivity of the Arabidopsis potassium channel AKT3. <i>Plant Cell</i> , 2002 , 14, 1859-68	11.6	40
170	The poplar K+ channel KPT1 is associated with K+ uptake during stomatal opening and bud development. <i>Plant Journal</i> , 2004 , 37, 828-38	6.9	39
169	Channelling auxin action: modulation of ion transport by indole-3-acetic acid. <i>Plant Molecular Biology</i> , 2002 , 49, 349-356	4.6	39
168	Structure and Function of TPC1 Vacuole SV Channel Gains Shape. <i>Molecular Plant</i> , 2018 , 11, 764-775	14.4	38
167	Differential expression of K+ channels between guard cells and subsidiary cells within the maize stomatal complex. <i>Planta</i> , 2005 , 222, 968-76	4.7	38
166	Effects of temperature on the cuticular transpiration barrier of two desert plants with water-spender and water-saver strategies. <i>Journal of Experimental Botany</i> , 2019 , 70, 1613-1625	7	37
165	Venus Flytrap HKT1-Type Channel Provides for Prey Sodium Uptake into Carnivorous Plant Without Conflicting with Electrical Excitability. <i>Molecular Plant</i> , 2016 , 9, 428-436	14.4	37
164	Control of basal jasmonate signalling and defence through modulation of intracellular cation flux capacity. <i>New Phytologist</i> , 2017 , 216, 1161-1169	9.8	37
163	Poplar extrafloral nectaries: two types, two strategies of indirect defenses against herbivores. <i>Plant Physiology</i> , 2012 , 159, 1176-91	6.6	37
162	C-terminus-mediated voltage gating of Arabidopsis guard cell anion channel QUAC1. <i>Molecular Plant</i> , 2013 , 6, 1550-63	14.4	37
161	KDC1, a novel carrot root hair K+ channel. Cloning, characterization, and expression in mammalian cells. <i>Journal of Biological Chemistry</i> , 2000 , 275, 39420-6	5.4	37
160	Guard cell-specific calcium sensitivity of high density and activity SV/TPC1 channels. <i>Plant and Cell Physiology</i> , 2010 , 51, 1548-54	4.9	36
159	Tumour development in Arabidopsis thaliana involves the Shaker-like K+ channels AKT1 and AKT2/3. <i>Plant Journal</i> , 2003 , 34, 778-87	6.9	36
158	Plant K+Channels: Similarity and Diversity. <i>Botanica Acta</i> , 1996 , 109, 94-101		35
157	Osmocytosis and Vacuolar Fragmentation in Guard Cell Protoplasts: Their Relevance to Osmotically-Induced Volume Changes in Guard Cells. <i>Journal of Experimental Botany</i> , 1993 , 44, 1569-1577		35
156	Insect haptoelectrical stimulation of Venus flytrap triggers exocytosis in gland cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 4822-4827	11.5	34
155	Acquiring Control: The Evolution of Stomatal Signalling Pathways. <i>Trends in Plant Science</i> , 2019 , 24, 342-351		34

154	Pronounced differences between the native K ⁺ channels and KAT1 and KST1 alpha-subunit homomers of guard cells. <i>Planta</i> , 1999 , 207, 370-6	4.7	33
153	Functional expression of the plant K ⁺ channel KAT1 in insect cells. <i>FEBS Letters</i> , 1996 , 380, 229-32	3.8	33
152	Acclimation to heat and drought—Lessons to learn from the date palm (<i>Phoenix dactylifera</i>). <i>Environmental and Experimental Botany</i> , 2016 , 125, 20-30	5.9	32
151	A role for PSK signaling in wounding and microbial interactions in <i>Arabidopsis</i> . <i>Physiologia Plantarum</i> , 2010 , 139, 348-57	4.6	32
150	Calcium signals in guard cells enhance the efficiency by which abscisic acid triggers stomatal closure. <i>New Phytologist</i> , 2019 , 224, 177-187	9.8	31
149	Ca ²⁺ -dependent activation of guard cell anion channels, triggered by hyperpolarization, is promoted by prolonged depolarization. <i>Plant Journal</i> , 2010 , 62, 265-76	6.9	31
148	The voltage-dependent potassium-uptake channel of corn coleoptiles has permeation properties different from other K ⁺ channels. <i>Planta</i> , 1995 , 197, 193	4.7	31
147	Identification and biochemical characterization of the plasma-membrane H ⁺ -ATPase in guard cells of <i>Vicia faba</i> L.. <i>Planta</i> , 1993 , 190, 44	4.7	31
146	The Nonspecific Lipid Transfer Protein AtLtp1-4 Is Involved in Suberin Formation of <i>Arabidopsis thaliana</i> Crown Galls. <i>Plant Physiology</i> , 2016 , 172, 1911-1927	6.6	30
145	PHO1 expression in guard cells mediates the stomatal response to abscisic acid in <i>Arabidopsis</i> . <i>Plant Journal</i> , 2012 , 72, 199-211	6.9	30
144	Luminal and cytosolic pH feedback on proton pump activity and ATP affinity of V-type ATPase from <i>Arabidopsis</i> . <i>Journal of Biological Chemistry</i> , 2012 , 287, 8986-93	5.4	30
143	Interconversion of fast and slow gating modes of GCAC1, a Guard Cell Anion Channel. <i>Planta</i> , 1994 , 195, 301	4.7	30
142	Calcium dynamics during trap closure visualized in transgenic Venus flytrap. <i>Nature Plants</i> , 2020 , 6, 1219-1224	11.5	30
141	Tip-localized Ca ²⁺ -permeable channels control pollen tube growth via kinase-dependent R- and S-type anion channel regulation. <i>New Phytologist</i> , 2018 , 218, 1089-1105	9.8	29
140	A Tandem Amino Acid Residue Motif in Guard Cell SLAC1 Anion Channel of Grasses Allows for the Control of Stomatal Aperture by Nitrate. <i>Current Biology</i> , 2018 , 28, 1370-1379.e5	6.3	29
139	Venus flytrap trigger hairs are micronewton mechano-sensors that can detect small insect prey. <i>Nature Plants</i> , 2019 , 5, 670-675	11.5	29
138	In planta AKT2 subunits constitute a pH- and Ca ²⁺ -sensitive inward rectifying K ⁺ channel. <i>Planta</i> , 2007 , 225, 1179-91	4.7	29
137	Chapter 1 Voltage-Dependent Chloride Channels in Plant Cells: Identification, Characterization, and Regulation of a Guard Cell Anion Channel. <i>Current Topics in Membranes</i> , 1994 , 42, 1-33	2.2	29

136	Secreted major Venus flytrap chitinase enables digestion of Arthropod prey. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2014 , 1844, 374-83	4	28
135	Polar-localised poplar K ⁺ channel capable of controlling electrical properties of wood-forming cells. <i>Planta</i> , 2005 , 223, 140-8	4.7	28
134	Patch-clamp studies on higher plant cells: a perspective. <i>Trends in Biochemical Sciences</i> , 1987 , 12, 49-52	10.3	28
133	Sucrose- and H-dependent charge movements associated with the gating of sucrose transporter ZmSUT1. <i>PLoS ONE</i> , 2010 , 5, e12605	3.7	28
132	GABA signalling modulates stomatal opening to enhance plant water use efficiency and drought resilience. <i>Nature Communications</i> , 2021 , 12, 1952	17.4	28
131	VFK1, a <i>Vicia faba</i> K(+) channel involved in phloem unloading. <i>Plant Journal</i> , 2001 , 27, 571-80	6.9	28
130	Detecting early signs of heat and drought stress in <i>Phoenix dactylifera</i> (date palm). <i>PLoS ONE</i> , 2017 , 12, e0177883	3.7	26
129	Light-induced modification of plant plasma membrane ion transport. <i>Plant Biology</i> , 2010 , 12 Suppl 1, 64-79	3.7	26
128	Histidine(118) in the S2-S3 linker specifically controls activation of the KAT1 channel expressed in <i>Xenopus oocytes</i> . <i>Biophysical Journal</i> , 2000 , 78, 1255-69	2.9	26
127	Anion channel SLAH3 is a regulatory target of chitin receptor-associated kinase PBL27 in microbial stomatal closure. <i>ELife</i> , 2019 , 8,	8.9	26
126	Voltage-dependent gating of SV channel TPC1 confers vacuole excitability. <i>Nature Communications</i> , 2019 , 10, 2659	17.4	25
125	Cytosolic Ca(2+) Signals Enhance the Vacuolar Ion Conductivity of Bulging Arabidopsis Root Hair Cells. <i>Molecular Plant</i> , 2015 , 8, 1665-74	14.4	25
124	Genomes of the Venus Flytrap and Close Relatives Unveil the Roots of Plant Carnivory. <i>Current Biology</i> , 2020 , 30, 2312-2320.e5	6.3	25
123	Hodgkin-Huxley analysis of a GCAC1 anion channel in the plasma membrane of guard cells. <i>Journal of Membrane Biology</i> , 1995 , 146, 273-82	2.3	25
122	Characterization of an anion-permeable channel from sugar beet vacuoles: effect of inhibitors. <i>EMBO Journal</i> , 1988 , 7, 3661-6	13	25
121	High V-PPase activity is beneficial under high salt loads, but detrimental without salinity. <i>New Phytologist</i> , 2018 , 219, 1421-1432	9.8	25
120	A large-scale screening of quinoa accessions reveals an important role of epidermal bladder cells and stomatal patterning in salinity tolerance. <i>Environmental and Experimental Botany</i> , 2019 , 168, 103885	5.9	24
119	Modulation and block of the plasma membrane anion channel of guard cells by stilbene derivatives. <i>European Biophysics Journal</i> , 1993 , 21, 403	1.9	24

118	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	11.5	24
117	On the cellular site of two-pore channel TPC1 action in the Poaceae. <i>New Phytologist</i> , 2013 , 200, 663-674	9.8	23
116	Poplar wood rays are involved in seasonal remodeling of tree physiology. <i>Plant Physiology</i> , 2012 , 160, 1515-29	6.6	23
115	Calcium ions are involved in the delay of plant cell cycle progression by abiotic stresses. <i>FEBS Letters</i> , 2006 , 580, 597-602	3.8	23
114	Ion channels meet auxin action. <i>Plant Biology</i> , 2006 , 8, 353-9	3.7	23
113	Strategy of nitrogen acquisition and utilization by carnivorous <i>Dionaea muscipula</i> . <i>Oecologia</i> , 2014 , 174, 839-51	2.9	22
112	How do stomata sense reductions in atmospheric relative humidity?. <i>Molecular Plant</i> , 2013 , 6, 1703-6	14.4	22
111	The auxin-induced K(+) channel gene <i>Zmk1</i> in maize functions in coleoptile growth and is required for embryo development. <i>Plant Molecular Biology</i> , 2006 , 61, 757-68	4.6	22
110	Parallel recordings of photosynthetic electron transport and K ⁺ -channel activity in single guard cells. <i>Plant Journal</i> , 2002 , 32, 623-30	6.9	22
109	Channelling auxin action: modulation of ion transport by indole-3-acetic acid. <i>Plant Molecular Biology</i> , 2002 , 49, 349-56	4.6	22
108	Outward-rectifying K ⁺ channel activities regulate cell elongation and cell division of tobacco BY-2 cells. <i>Plant Journal</i> , 2009 , 57, 55-64	6.9	21
107	Single mutations strongly alter the K ⁺ -selective pore of the K(in) channel <i>KAT1</i> . <i>FEBS Letters</i> , 1998 , 430, 370-6	3.8	21
106	Functional characterisation and cell specificity of <i>BvSUT1</i> , the transporter that loads sucrose into the phloem of sugar beet (<i>Beta vulgaris</i> L.) source leaves. <i>Plant Biology</i> , 2017 , 19, 315-326	3.7	20
105	Analytical studies on the incorporation of aluminium in the cell walls of the marine diatom <i>Stephanopyxis turris</i> . <i>BioMetals</i> , 2013 , 26, 141-50	3.4	20
104	Regulation of the V-type ATPase by redox modulation. <i>Biochemical Journal</i> , 2012 , 448, 243-51	3.8	20
103	K ⁺ transport characteristics of the plasma membrane tandem-pore channel <i>TPK4</i> and pore chimeras with its vacuolar homologs. <i>FEBS Letters</i> , 2010 , 584, 2433-9	3.8	20
102	Prospects for the accelerated improvement of the resilient crop quinoa. <i>Journal of Experimental Botany</i> , 2020 , 71, 5333-5347	7	19
101	Spatio-temporal Aspects of Ca ²⁺ Signalling: Lessons from Guard Cells and Pollen Tubes. <i>Journal of Experimental Botany</i> , 2018 ,	7	19

100	Methods of staining and visualization of sphingolipid enriched and non-enriched plasma membrane regions of <i>Arabidopsis thaliana</i> with fluorescent dyes and lipid analogues. <i>Plant Methods</i> , 2012 , 8, 28	5.8	19
99	The voltage-dependent H ⁺ -ATPase of the sugar beet vacuole is reversible. <i>European Biophysics Journal</i> , 1994 , 22, 399	1.9	19
98	Signals in Plant Defense Gene Activation. <i>Current Plant Science and Biotechnology in Agriculture</i> , 1991 , 373-380		19
97	Mutational analysis of functional domains within plant K ⁺ uptake channels. <i>Journal of Experimental Botany</i> , 1997 , 48 Spec No, 415-20	7	18
96	Malate Dehydrogenases in Guard Cells of <i>Pisum sativum</i> . <i>Plant Physiology</i> , 1990 , 93, 1358-64	6.6	18
95	Integration of trap- and root-derived nitrogen nutrition of carnivorous <i>Dionaea muscipula</i> . <i>New Phytologist</i> , 2015 , 205, 1320-1329	9.8	17
94	Inverse pH regulation of plant and fungal sucrose transporters: a mechanism to regulate competition for sucrose at the host/pathogen interface?. <i>PLoS ONE</i> , 2010 , 5, e12429	3.7	17
93	Potassium-dependent wood formation in poplar: seasonal aspects and environmental limitations. <i>Plant Biology</i> , 2010 , 12, 259-67	3.7	17
92	Anions modify the response of guard-cell anion channels to auxin. <i>Planta</i> , 1995 , 197, 546	4.7	17
91	On the origins of osmotically driven stomatal movements. <i>New Phytologist</i> , 2019 , 222, 84-90	9.8	17
90	The MscS-like channel Ynal has a gating mechanism based on flexible pore helices. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 28754-28762	11.5	16
89	Physiological responses of date palm (<i>Phoenix dactylifera</i>) seedlings to acute ozone exposure at high temperature. <i>Environmental Pollution</i> , 2018 , 242, 905-913	9.3	16
88	30-year progress of membrane transport in plants. <i>Planta</i> , 2006 , 224, 725-39	4.7	16
87	Climate and development modulate the metabolome and antioxidative system of date palm leaves. <i>Journal of Experimental Botany</i> , 2019 , 70, 5959-5969	7	15
86	A new scheme of symbiosis: ligand- and voltage-gated anion channels in plants and animals. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 1992 , 338, 31-8	5.8	15
85	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, 750-60	3.7	15
84	The carnivorous Venus flytrap uses prey-derived amino acid carbon to fuel respiration. <i>New Phytologist</i> , 2017 , 214, 597-606	9.8	14
83	A novel K ⁺ channel expressed in carrot roots with a low susceptibility toward metal ions. <i>Journal of Bioenergetics and Biomembranes</i> , 2001 , 33, 63-71	3.7	14

82	Vacuolar Lucifer Yellow Uptake in Plants: Endocytosis or Anion Transport; A Critical Opinion. <i>Botanica Acta</i> , 1991 , 104, 257-264		14
81	Auxin-Induced Plasma Membrane Depolarization Is Regulated by Auxin Transport and Not by AUXIN BINDING PROTEIN1. <i>Frontiers in Plant Science</i> , 2018 , 9, 1953	6.2	14
80	Guard cells in fern stomata are connected by plasmodesmata, but control cytosolic Ca levels autonomously. <i>New Phytologist</i> , 2018 , 219, 206-215	9.8	13
79	Stringent control of cytoplasmic Ca ²⁺ in guard cells of intact plants compared to their counterparts in epidermal strips or guard cell protoplasts. <i>Protoplasma</i> , 2008 , 233, 61-72	3.4	13
78	[22] Patch clamp measurements on isolated guard cell protoplasts and vacuoles. <i>Methods in Enzymology</i> , 1989 , 312-330	1.7	13
77	Uptake of Lucifer yellow CH in leaves of <i>Commelina communis</i> is mediated by endocytosis. <i>Protoplasma</i> , 1990 , 158, 142-148	3.4	13
76	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	9.7	13
75	An optimized genetically encoded dual reporter for simultaneous ratio imaging of Ca and H reveals new insights into ion signaling in plants. <i>New Phytologist</i> , 2021 , 230, 2292-2310	9.8	13
74	Significance of the Root Apoplast for Aluminium Toxicity and Resistance of Maize 2007 , 49-66		13
73	The fungal UmSrt1 and maize ZmSUT1 sucrose transporters battle for plant sugar resources. <i>Journal of Integrative Plant Biology</i> , 2017 , 59, 422-435	8.3	12
72	Studying guard cells in the intact plant: modulation of stomatal movement by apoplastic factors 2002 , 153, 425		12
71	Action potentials induce biomagnetic fields in carnivorous Venus flytrap plants. <i>Scientific Reports</i> , 2021 , 11, 1438	4.9	12
70	Optimization of photosynthesis and stomatal conductance in the date palm <i>Phoenix dactylifera</i> during acclimation to heat and drought. <i>New Phytologist</i> , 2019 , 223, 1973-1988	9.8	11
69	Coprophagous features in carnivorous <i>Nepenthes</i> plants: a task for ureases. <i>Scientific Reports</i> , 2017 , 7, 11647	4.9	11
68	Phosphorylation of SPICK2, an AKT2 channel homologue from <i>Samanea</i> motor cells. <i>Journal of Experimental Botany</i> , 2006 , 57, 3583-94	7	11
67	Opening plant calcium channels. <i>Nature</i> , 1990 , 344, 593-594	50.4	11
66	Poplar extrafloral nectar is protected against plant and human pathogenic fungus. <i>Molecular Plant</i> , 2012 , 5, 1157-9	14.4	10
65	Susceptibility of the guard-cell K(+)-uptake channel KST1 to Zn(2+) requires histidine residues in the S3-S4 linker and in the channel pore. <i>Planta</i> , 1999 , 209, 543-6	4.7	10

64	SLAH3-type anion channel expressed in poplar secretory epithelia operates in calcium kinase CPK-autonomous manner. <i>New Phytologist</i> , 2016 , 210, 922-33	9.8	10
63	The Developmental and Genetic Architecture of the Sexually Selected Male Ornament of Swordtails. <i>Current Biology</i> , 2021 , 31, 911-922.e4	6.3	10
62	Optogenetic control of plant growth by a microbial rhodopsin. <i>Nature Plants</i> , 2021 , 7, 144-151	11.5	10
61	Mechano-stimulation triggers turgor changes associated with trap closure in the Darwin plant <i>Dionaea muscipula</i> . <i>Molecular Plant</i> , 2014 , 7, 744-6	14.4	9
60	Discontinuous single electrode voltage-clamp measurements: assessment of clamp accuracy in <i>Vicia faba</i> guard cells. <i>Journal of Experimental Botany</i> , 2001 , 52, 1933-9	7	9
59	Current Injection Provokes Rapid Expansion of the Guard Cell Cytosolic Volume and Triggers Ca(2+) Signals. <i>Molecular Plant</i> , 2016 , 9, 471-480	14.4	8
58	Nucleotides and Mg ²⁺ ions differentially regulate K ⁺ channels and non-selective cation channels present in cells forming the stomatal complex. <i>Plant and Cell Physiology</i> , 2005 , 46, 1682-9	4.9	8
57	Do drought-hardened plants suffer from fever?. <i>Trends in Plant Science</i> , 2001 , 6, 506; author reply 507-8	13.1	8
56	On the Origin of Carnivory: Molecular Physiology and Evolution of Plants on an Animal Diet. <i>Annual Review of Plant Biology</i> , 2021 , 72, 133-153	30.7	8
55	Optogenetic control of the guard cell membrane potential and stomatal movement by the light-gated anion channel ACR1. <i>Science Advances</i> , 2021 , 7,	14.3	8
54	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	13.1	8
53	A voltage-dependent Ca homeostat operates in the plant vacuolar membrane. <i>New Phytologist</i> , 2021 , 230, 1449-1460	9.8	7
52	Stomata: the holy grail of plant evolution. <i>American Journal of Botany</i> , 2021 , 108, 366-371	2.7	7
51	Salinity Effects on Guard Cell Proteome in. <i>International Journal of Molecular Sciences</i> , 2021 , 22,	6.3	7
50	Acidosis-induced activation of anion channel SLAH3 in the flooding-related stress response of <i>Arabidopsis</i> . <i>Current Biology</i> , 2021 , 31, 3575-3585.e9	6.3	7
49	Technical Approaches to Studying Specific Properties of Ion Channels in Plants 1995 , 277-305		7
48	Mechanisms of electrically mediated cytosolic Ca ²⁺ transients in aequorin-transformed tobacco cells. <i>Biophysical Journal</i> , 2007 , 93, 3324-37	2.9	6
47	Energy-Dependent Solute Transport from the Apoplast into the Symplast of Leaves during Transpiration. <i>Russian Journal of Plant Physiology</i> , 2002 , 49, 32-43	1.6	6

46	Patch clamp techniques to study ion channels from organelles. <i>Methods in Enzymology</i> , 1992 , 207, 673-81.	7	6
45	Pitfalls in auxin pharmacology. <i>New Phytologist</i> , 2020 , 227, 286-292	9.8	5
44	Do stomata of evolutionary distant species differ in sensitivity to environmental signals?. <i>New Phytologist</i> , 2016 , 211, 767-70	9.8	5
43	Osmotic stress induces inactivation of photosynthesis in guard cell protoplasts of <i>Vicia</i> leaves. <i>Plant and Cell Physiology</i> , 2001 , 42, 1186-91	4.9	5
42	Evidence for the functional organization of chloroplasts in adaxial guard cells of <i>Vicia faba</i> leaves by single cell analysis. <i>Plant Science</i> , 2002 , 162, 965-972	5.3	5
41	Sugar Beet () Guard Cells Responses to Salinity Stress: A Proteomic Analysis. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	5
40	Role of Ion Channels in Plants. <i>Springer Protocols</i> , 2012 , 295-322	0.3	4
39	Energy-dependent Solute Uptake Into the Symplast of Leaves: ATP/KCl, ATP/Sucrose, ATP/D-serine and H ⁺ /ATP Stoichiometries of Transmembrane Transport. <i>Plant Biology</i> , 2003 , 5, 159-166	3.7	4
38	Energized Uptake of Ascorbate and Dehydroascorbate From the Apoplast of Intact Leaves in Relation to Apoplastic Steady State Concentrations of Ascorbate. <i>Plant Biology</i> , 2003 , 5, 151-158	3.7	4
37	Channelling auxin action: modulation of ion transport by indole-3-acetic acid 2002 , 349-356		4
36	Is gene activity in plant cells affected by UMTS-irradiation? A whole genome approach. <i>Advances and Applications in Bioinformatics and Chemistry</i> , 2008 , 1, 71-83	1.5	3
35	Differential regulation of K ⁺ channels in <i>Arabidopsis</i> epidermal and stelar root cells. <i>Plant, Cell and Environment</i> , 2004 , 27, 980-990	8.4	3
34	Coordination of plasma membrane and vacuolar membrane ion channels during stomatal movement. <i>Symposia of the Society for Experimental Biology</i> , 1994 , 48, 99-112		3
33	On the Structure and Function of Plant K ⁺ Channels 1998 , 35-45		3
32	Photosynthetic cyclic electron transport provides ATP for homeostasis during trap closure in <i>Dionaea muscipula</i> . <i>Annals of Botany</i> , 2020 , 125, 485-494	4.1	3
31	Date palm responses to a chronic, realistic ozone exposure in a FACE experiment. <i>Environmental Research</i> , 2021 , 195, 110868	7.9	3
30	PYL8 ABA receptors of <i>Phoenix dactylifera</i> play a crucial role in response to abiotic stress and are stabilized by ABA. <i>Journal of Experimental Botany</i> , 2021 , 72, 757-774	7	3
29	Physiological responses of date palm (<i>Phoenix dactylifera</i>) seedlings to seawater and flooding. <i>New Phytologist</i> , 2021 , 229, 3318-3329	9.8	3

28	Mechanosensitive channel gating by delipidation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	3
27	Carnivorous plants. <i>Current Biology</i> , 2015 , 25, R99-R100	6.3	2
26	Stomata 2009 ,		2
25	Ionenselektive Durchflüssenoren mit licht- und sauerstoffunempfindlichen Festkontakten zur pflanzenphysiologischen On-line-Elektroanalytik transmembranärer Ionentransporte während der Photosynthese. <i>Journal Für Praktische Chemie, Chemiker-Zeitung</i> , 1998 , 340, 738-743		2
24	Biology of Plant Potassium Channels. <i>Plant Cell Monographs</i> , 2011 , 253-274	0.6	2
23	Green circuits □The potential of plant specific ion channels 1994 , 401-414		2
22	Protein expression plasticity contributes to heat and drought tolerance of date palm. <i>Oecologia</i> , 2021 , 197, 903-919	2.9	2
21	Mycorrhizal lipochitinoligosaccharides (LCOs) depolarize root hairs of <i>Medicago truncatula</i> . <i>PLoS ONE</i> , 2018 , 13, e0198126	3.7	2
20	Rapid depolarization and cytosolic calcium increase go hand-in-hand in mesophyll cells□zone response. <i>New Phytologist</i> , 2021 , 232, 1692-1702	9.8	2
19	Ion Channels Meet Cell Cycle Control 2006 , 65-78		2
18	Sugar loading is not required for phloem sap flow in maize plants.. <i>Nature Plants</i> , 2022 , 8, 171-180	11.5	2
17	Laser scanning microscopy study on adsorption of biologically relevant proteins on implant materials. <i>Biopolymers</i> , 2002 , 67, 344-8	2.2	1
16	Gaining or cutting SLAC: the evolution of plant guard cell signalling pathways		1
15	Under salt stress guard cells rewire ion transport and abscisic acid signaling. <i>New Phytologist</i> , 2021 , 231, 1040-1055	9.8	1
14	Metabolic responses of date palm (<i>Phoenix dactylifera</i> L.) leaves to drought differ in summer and winter climate. <i>Tree Physiology</i> , 2021 , 41, 1685-1700	4.2	1
13	The Role of Potassium in Wood Formation of Poplar 2007 , 137-149		1
12	Ether anesthetics prevents touch-induced trigger hair calcium-electrical signals excite the Venus flytrap.. <i>Scientific Reports</i> , 2022 , 12, 2851	4.9	1
11	Molecular basis of multistep voltage activation in plant two-pore channel 1.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022 , 119,	11.5	1

10	Transcriptome analyses of quinoa leaves revealed critical function of epidermal bladder cells in salt stress acclimation. <i>Plant Stress</i> , 2022 , 3, 100061		0
9	Chronic ozone exposure preferentially modifies root rather than foliar metabolism of date palm (<i>Phoenix dactylifera</i>) saplings. <i>Science of the Total Environment</i> , 2022 , 806, 150563	10.2	0
8	Transporter networks can serve plant cells as nutrient sensors and mimic transceptor-like behavior.. <i>IScience</i> , 2022 , 25, 104078	6.1	0
7	Diatom Signaling: A Novel Channel Type Identified. <i>Current Biology</i> , 2019 , 29, R319-R321	6.3	
6	From Darwin to today: what modern biology tells us about the life of the green flesh-eater. <i>Current Biology</i> , 2018 , 28, R640-R641	6.3	
5	The Pore of Plant K ⁺ Channels Is Involved in Voltage and pH Sensing: Domain-Swapping between Different K ⁺ Channel α -Subunits. <i>Plant Cell</i> , 2001 , 13, 943	11.6	
4	Apoplasmic factors regulate the AKT2/3-type potassium channels 2001 , 248-249		
3	Electrophysiology of the Plasma Membrane of Higher Plant Cells: New Insights from Patch-Clamp Studies 1989 , 182-202		
2	Molecular Mechanisms of Ion Transport: New Insights by Patch-Clamp Studies 1990 , 1-14		
1	A Voltage-Dependent Chloride Channel in the Thylakoid Membrane 1990 , 2043-2046		