Francois Chaumont

List of Publications by Year
in descending order

104 papers	9,474 citations	38660 50 h-index	39575 94 g-index
107 all docs	107 docs citations	107 times ranked	7312 citing authors

#	Article	IF	Citations
1	Aquaporins Constitute a Large and Highly Divergent Protein Family in Maize. Plant Physiology, 2001, 125, 1206-1215.	2.3	555
2	Aquaporin-facilitated transmembrane diffusion of hydrogen peroxide. Biochimica Et Biophysica Acta - General Subjects, 2014, 1840, 1596-1604.	1.1	550
3	Aquaporins: Highly Regulated Channels Controlling Plant Water Relations. Plant Physiology, 2014, 164, 1600-1618.	2.3	536
4	Interactions between Plasma Membrane Aquaporins Modulate Their Water Channel Activity. Plant Cell, 2004, 16, 215-228.	3.1	400
5	Drought and Abscisic Acid Effects on Aquaporin Content Translate into Changes in Hydraulic Conductivity and Leaf Growth Rate: A Trans-Scale Approach Â Â. Plant Physiology, 2009, 149, 2000-2012.	2.3	331
6	FRET imaging in living maize cells reveals that plasma membrane aquaporins interact to regulate their subcellular localization. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 12359-12364.	3.3	309
7	Plasma Membrane Intrinsic Proteins from Maize Cluster in Two Sequence Subgroups with Differential Aquaporin Activity. Plant Physiology, 2000, 122, 1025-1034.	2.3	306
8	Role of aquaporins in leaf physiology. Journal of Experimental Botany, 2009, 60, 2971-2985.	2.4	270
9	Regulation of plant aquaporin activity. Biology of the Cell, 2005, 97, 749-764.	0.7	256
10	The Role of Aquaporins and Membrane Damage in Chilling and Hydrogen Peroxide Induced Changes in the Hydraulic Conductance of Maize Roots. Plant Physiology, 2005, 137, 341-353.	2.3	230
11	Regulation of plasma membrane aquaporins by inoculation with a Bacillus megaterium strain in maize (Zea mays L.) plants under unstressed and salt-stressed conditions. Planta, 2010, 232, 533-543.	1.6	224
12	Arbuscular mycorrhizal symbiosis increases relative apoplastic water flow in roots of the host plant under both well-watered and drought stress conditions. Annals of Botany, 2012, 109, 1009-1017.	1.4	220
13	Localization and Quantification of Plasma Membrane Aquaporin Expression in Maize Primary Root: A Clue to Understanding their Role as Cellular Plumbers. Plant Molecular Biology, 2006, 62, 305-323.	2.0	211
14	New Insights into the Regulation of Aquaporins by the Arbuscular Mycorrhizal Symbiosis in Maize Plants Under Drought Stress and Possible Implications for Plant Performance. Molecular Plant-Microbe Interactions, 2014, 27, 349-363.	1.4	206
15	<i>Solanaceae</i> XIPs are plasma membrane aquaporins that facilitate the transport of many uncharged substrates. Plant Journal, 2011, 66, 306-317.	2.8	199
16	<i>Arabidopsis</i> SNAREs SYP61 and SYP121 Coordinate the Trafficking of Plasma Membrane Aquaporin PIP2;7 to Modulate the Cell Membrane Water Permeability. Plant Cell, 2014, 26, 3132-3147.	3.1	192
17	Characterization of a Maize Tonoplast Aquaporin Expressed in Zones of Cell Division and Elongation1. Plant Physiology, 1998, 117, 1143-1152.	2.3	142
18	The expression pattern of plasma membrane aquaporins in maize leaf highlights their role in hydraulic regulation. Plant Molecular Biology, 2008, 68, 337-353.	2.0	142

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19	Enhanced Drought Stress Tolerance by the Arbuscular Mycorrhizal Symbiosis in a Drought-Sensitive Maize Cultivar Is Related to a Broader and Differential Regulation of Host Plant Aquaporins than in a Drought-Tolerant Cultivar. Frontiers in Plant Science, 2017, 8, 1056.	1.7	138
20	Inactivation of the Î²(1,2)-xylosyltransferase and the Î±(1,3)-fucosyltransferase genes in Nicotiana tabacum BY-2 Cells by a Multiplex CRISPR/Cas9 Strategy Results in Glycoproteins without Plant-Specific Glycans. Frontiers in Plant Science, 2017, 8, 403.	1.7	134
21	Circadian rhythms of hydraulic conductance and growth are enhanced by drought and improve plant performance. Nature Communications, 2014, 5, 5365.	5.8	131
22	The <i>Arabidopsis</i> Abiotic Stress-Induced TSPO-Related Protein Reduces Cell-Surface Expression of the Aquaporin PIP2;7 through Protein-Protein Interactions and Autophagic Degradation. Plant Cell, 2014, 26, 4974-4990.	3.1	128
23	Modulating the expression of aquaporin genes in planta: A key to understand their physiological functions?. Biochimica Et Biophysica Acta - Biomembranes, 2006, 1758, 1142-1156.	1.4	127
24	Shortâ€term control of maize cell and root water permeability through plasma membrane aquaporin isoforms. Plant, Cell and Environment, 2012, 35, 185-198.	2.8	127
25	Selective Regulation of Maize Plasma Membrane Aquaporin Trafficking and Activity by the SNARE SYP121. Plant Cell, 2012, 24, 3463-3481.	3.1	109
26	Crystal Structure of an Ammonia-Permeable Aquaporin. PLoS Biology, 2016, 14, e1002411.	2.6	108
27	Identification and characterization of two plasma membrane aquaporins in durum wheat (Triticum) Tj ETQq1 1 0.784314 rgBT /Overlo Biochemistry, 2011, 49, 1029-1039.	2.8	105
28	A Novel Plant Major Intrinsic Protein in Physcomitrella patens Most Similar to Bacterial Glycerol Channels. Plant Physiology, 2005, 139, 287-295.	2.3	103
29	An Nâ€terminal diacidic motif is required for the trafficking of maize aquaporins ZmPIP2;4 and ZmPIP2;5 to the plasma membrane. Plant Journal, 2009, 57, 346-355.	2.8	102
30	Comparative landscape genetic analyses show a Belgian motorway to be a gene flow barrier for red deer (<i>Cervus elaphus</i>), but not wild boars (<i>Sus scrofa</i>). Molecular Ecology, 2012, 21, 3445-3457.	2.0	100
31	Genetic structure and assignment tests demonstrate illegal translocation of red deer (Cervus) Tj ETQq1 1 0.784314 rgBT /Overlock 10 1	2.0	98
32	The Xerobranching Response Represses Lateral Root Formation When Roots Are Not in Contact with Water. Current Biology, 2018, 28, 3165-3173.e5.	1.8	94
33	Aquaporins: A Family of Highly Regulated Multifunctional Channels. Advances in Experimental Medicine and Biology, 2010, 679, 1-17.	0.8	90
34	Insights into plant plasma membrane aquaporin trafficking. Trends in Plant Science, 2013, 18, 344-352.	4.3	86
35	A conserved cysteine residue is involved in disulfide bond formation between plant plasma membrane aquaporin monomers. Biochemical Journal, 2012, 445, 101-111.	1.7	80
36	Dynamic Changes in the Osmotic Water Permeability of Protoplast Plasma Membrane. Plant Physiology, 2004, 135, 2301-2317.	2.3	78

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37	A Hydraulic Model Is Compatible with Rapid Changes in Leaf Elongation under Fluctuating Evaporative Demand and Soil Water Status Â Â Â. Plant Physiology, 2014, 164, 1718-1730.	2.3	73
38	Maize Plasma Membrane Aquaporins Belonging to the PIP1 and PIP2 Subgroups are in vivo Phosphorylated. Plant and Cell Physiology, 2008, 49, 1364-1377.	1.5	70
39	The arbuscular mycorrhizal symbiosis regulates aquaporins activity and improves root cell water permeability in maize plants subjected to water stress. Plant, Cell and Environment, 2019, 42, 2274-2290.	2.8	69
40	Water permeability differs between growing and non-growing barley leaf tissues. Journal of Experimental Botany, 2006, 58, 377-390.	2.4	68
41	Expression and characterization of plasma membrane aquaporins in stomatal complexes of Zea mays. Plant Molecular Biology, 2014, 86, 335-350.	2.0	67
42	Trafficking of Plant Plasma Membrane Aquaporins: Multiple Regulation Levels and Complex Sorting Signals. Plant and Cell Physiology, 2015, 56, 819-829.	1.5	66
43	Channel-mediated lactic acid transport: a novel function for aquaglyceroporins in bacteria. Biochemical Journal, 2013, 454, 559-570.	1.7	65
44	Root ABA Accumulation Enhances Rice Seedling Drought Tolerance under Ammonium Supply: Interaction with Aquaporins. Frontiers in Plant Science, 2016, 7, 1206.	1.7	64
45	Going with the Flow: Multiscale Insights into the Composite Nature of Water Transport in Roots. Plant Physiology, 2018, 178, 1689-1703.	2.3	63
46	Different in Vitro and in Vivo Targeting Properties of the Transit Peptide of a Chloroplast Envelope Inner Membrane Protein. Journal of Biological Chemistry, 1997, 272, 15264-15269.	1.6	62
47	Salinity-mediated transcriptional and post-translational regulation of the Arabidopsis aquaporin PIP2;7. Plant Molecular Biology, 2016, 92, 731-744.	2.0	59
48	Functional evolution of nodulin 26â€like intrinsic proteins: from bacterial arsenic detoxification to plant nutrient transport. New Phytologist, 2020, 225, 1383-1396.	3.5	59
49	Maize plasma membrane aquaporin ZmPIP2;5, but not ZmPIP1;2, facilitates transmembrane diffusion of hydrogen peroxide. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 216-222.	1.4	58
50	Mitochondrial and chloroplast targeting sequences in tandem modify protein import specificity in plant organelles. Plant Molecular Biology, 1996, 30, 769-780.	2.0	57
51	Plant and Mammal Aquaporins: Same but Different. International Journal of Molecular Sciences, 2018, 19, 521.	1.8	55
52	Tonoplast Aquaporins Facilitate Lateral Root Emergence. Plant Physiology, 2016, 170, 1640-1654.	2.3	53
53	Desiccation and osmotic stress increase the abundance of mRNA of the tonoplast aquaporin BobTIP26-1 in cauliflower cells. Planta, 1999, 209, 77-86.	1.6	52
54	Single Mutations in the Transmembrane Domains of Maize Plasma Membrane Aquaporins Affect the Activity of Monomers within a Heterotetramer. Molecular Plant, 2016, 9, 986-1003.	3.9	51

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55	Expression of a cauliflower tonoplast aquaporin tagged with GFP in tobacco suspension cells correlates with an increase in cell size. Plant Molecular Biology, 2003, 52, 387-400.	2.0	49
56	Heterotetramerization of Plant PIP1 and PIP2 Aquaporins Is an Evolutionary Ancient Feature to Guide PIP1 Plasma Membrane Localization and Function. Frontiers in Plant Science, 2018, 9, 382.	1.7	49
57	Truncated presequences of mitochondrial F1-ATPase Î² subunit from Nicotiana plumbaginifolia transport CAT and GUS proteins into mitochondria of transgenic tobacco. Plant Molecular Biology, 1994, 24, 631-641.	2.0	48
58	Targeting the maize T-urf13 product into tobacco mitochondria confers methomyl sensitivity to mitochondrial respiration.. Proceedings of the National Academy of Sciences of the United States of America, 1995, 92, 1167-1171.	3.3	48
59	Toward understanding of the high number of plant aquaporin isoforms and multiple regulation mechanisms. Plant Science, 2017, 264, 179-187.	1.7	48
60	The <i>Arabidopsis thaliana</i> trehalase is a plasma membraneâ€bound enzyme with extracellular activity. FEBS Letters, 2007, 581, 4010-4016.	1.3	46
61	Differential responses of plasma membrane aquaporins in mediating water transport of cucumber seedlings under osmotic and salt stresses. Plant, Cell and Environment, 2015, 38, 461-473.	2.8	45
62	Aquaporins and Leaf Hydraulics: Poplar Sheds New Light. Plant and Cell Physiology, 2013, 54, 1963-1975.	1.5	44
63	Aerobic and anaerobic glucose metabolism of Phytomonas sp. isolated from Euphorbia characias. Molecular and Biochemical Parasitology, 1994, 67, 321-331.	0.5	43
64	Boron demanding tissues of <i>Brassica napus</i> express specific sets of functional Nodulin26â€like Intrinsic Proteins and <scp>BOR</scp>1 transporters. Plant Journal, 2019, 100, 68-82.	2.8	43
65	Modification of the Expression of the Aquaporin ZmPIP2;5 Affects Water Relations and Plant Growth. Plant Physiology, 2020, 182, 2154-2165.	2.3	39
66	The Grapevine Uncharacterized Intrinsic Protein 1 (VvXIP1) Is Regulated by Drought Stress and Transports Glycerol, Hydrogen Peroxide, Heavy Metals but Not Water. PLoS ONE, 2016, 11, e0160976.	1.1	37
67	Repression of early lateral root initiation events by transient water deficit in barley and maize. Philosophical Transactions of the Royal Society B: Biological Sciences, 2012, 367, 1534-1541.	1.8	36
68	A New LxxxA Motif in the Transmembrane Helix3 of Maize Aquaporins Belonging to the Plasma Membrane Intrinsic Protein PIP2 Group Is Required for Their Trafficking to the Plasma Membrane Â Â. Plant Physiology, 2014, 166, 125-138.	2.3	36
69	Plant Aquaporins: Roles in Water Homeostasis, Nutrition, and Signaling Processes. Signaling and Communication in Plants, 2011, , 3-36.	0.5	34
70	The grape aquaporin VvSIP1 transports water across the ER membrane. Journal of Experimental Botany, 2014, 65, 981-993.	2.4	33
71	Contribution of the arbuscular mycorrhizal symbiosis to the regulation of radial root water transport in maize plants under water deficit. Environmental and Experimental Botany, 2019, 167, 103821.	2.0	33
72	Transporters, channels, or simple diffusion? Dogmas, atypical roles and complexity in transport systems. International Journal of Biochemistry and Cell Biology, 2010, 42, 857-868.	1.2	32

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73	Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site. Plant Cell, 1996, 8, 587.	3.1	31
74	Are Aquaporins Expressed in Stomatal Complexes Promising Targets to Enhance Stomatal Dynamics?. Frontiers in Plant Science, 2020, 11, 458.	1.7	27
75	Population structure and genetic diversity of red deer (Cervus elaphus) in forest fragments in north-western France. Conservation Genetics, 2011, 12, 1287-1297.	0.8	26
76	Membrane water permeability and aquaporin expression increase during growth of maize suspension cultured cells. Plant, Cell and Environment, 2009, 32, 1334-1345.	2.8	22
77	Expression of an Arabidopsis plasma membrane aquaporin in Dictyostelium results in hypoosmotic sensitivity and developmental abnormalities. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 6202-6209.	3.3	20
78	Physiological responses and aquaporin expression upon drought and osmotic stress in a conservative vs prodigal Fragaria x ananassa cultivar. Plant Physiology and Biochemistry, 2019, 145, 95-106.	2.8	20
79	Sequence of the gene encoding the mitochondrial F1ATPase alpha subunit from Nicotiana plumbaginifolia. Nucleic Acids Research, 1988, 16, 6247-6247.	6.5	19
80	The plasma membrane aquaporin ZmPIP2;5 enhances the sensitivity of stomatal closure to water deficit. Plant, Cell and Environment, 2022, 45, 1146-1156.	2.8	18
81	Overexpression of X Intrinsic Protein 1;1 in <i>Nicotiana tabacum</i> and Arabidopsis reduces boron allocation to shoot sink tissues. Plant Direct, 2019, 3, e00143.	0.8	17
82	Plasma membrane aquaporins interact with the endoplasmic reticulum resident VAP27 proteins at ERâ€“PM contact sites and endocytic structures. New Phytologist, 2020, 228, 973-988.	3.5	16
83	Heteromerization of Plant Aquaporins. Signaling and Communication in Plants, 2017, , 29-46.	0.5	16
84	Unraveling Human AQP5-PIP Molecular Interaction and Effect on AQP5 Salivary Glands Localization in SS Patients. Cells, 2021, 10, 2108.	1.8	15
85	The LxxxA motif in the third transmembrane helix of the maize aquaporin ZmPIP2;5 acts as an ER export signal. Plant Signaling and Behavior, 2015, 10, e990845.	1.2	14
86	Novel fluorochromes label tonoplast in living plant cells and reveal changes in vacuolar organization after treatment with protein phosphatase inhibitors. Protoplasma, 2018, 255, 829-839.	1.0	14
87	Evolutionary and Predictive Functional Insights into the Aquaporin Gene Family in the Allotetraploid Plant Nicotiana tabacum. International Journal of Molecular Sciences, 2020, 21, 4743.	1.8	13
88	Maize Black Mexican sweet suspension cultured cells are a convenient tool for studying aquaporin activity and regulation. Plant Signaling and Behavior, 2009, 4, 890-892.	1.2	12
89	Measuring the Osmotic Water Permeability Coefficient (P_f) of Spherical Cells: Isolated Plant Protoplasts as an Example. Journal of Visualized Experiments, 2014, , e51652.	0.2	12
90	Inactivation of N-Acetylglucosaminyltransferase I and Î±1,3-Fucosyltransferase Genes in Nicotiana tabacum BY-2 Cells Results in Glycoproteins With Highly Homogeneous, High-Mannose N-Glycans. Frontiers in Plant Science, 2021, 12, 634023.	1.7	11

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91	Focus on Water. Plant Physiology, 2014, 164, 1553-1555.	2.3	9
92	Exploring the N-Glycosylation Profile of Glycoprotein B from Human Cytomegalovirus Expressed in CHO and Nicotiana tabacum BY-2 Cells. International Journal of Molecular Sciences, 2019, 20, 3741.	1.8	9
93	Involvement of aquaporins on nitrogen-acquisition strategies of juvenile and adult plants of an epiphytic tank-forming bromeliad. Planta, 2019, 250, 319-332.	1.6	9
94	Interaction Between the SNARE SYP121 and the Plasma Membrane Aquaporin PIP2;7 Involves Different Protein Domains. Frontiers in Plant Science, 2020, 11, 631643.	1.7	9
95	Roles of Aquaporins in Stomata. Signaling and Communication in Plants, 2017, , 167-183.	0.5	8
96	A consensus on the Aquaporin Gene Family in the Allotetraploid Plant, Nicotiana tabacum. Plant Direct, 2021, 5, e00321.	0.8	6
97	Production of Recombinant Glycoproteins in Nicotiana tabacum BY-2 Suspension Cells. Methods in Molecular Biology, 2022, , 81-88.	0.4	5
98	Aquaporins involvement in the regulation of melon (Cucumis melo L.) fruit cracking under different nutrient (Ca, B and Zn) treatments. Environmental and Experimental Botany, 2022, 201, 104981.	2.0	5
99	Solute and Water Relations of Growing Plant Cells. , 2006, , 7-31.		4
100	Characterization of Plasma Membrane MIP Proteins in Maize. , 2000, , 269-274.		4
101	Exposure to high nitrogen triggered a genotypeâ€dependent modulation of cell and root hydraulics, which can involve aquaporin regulation. Physiologia Plantarum, 2022, , e13640.	2.6	3
102	Protein Import into Plant Mitochondria. Advances in Cellular and Molecular Biology of Plants, 1995, , 207-235.	0.2	2
103	Plasma membrane H+-ATPases promote TORC1 activation in plant suspension cells. IScience, 2022, 25, 104238.	1.9	1
104	In memoriam AndrÃ© Goffeau: From proteins to genes to genomesâ€"The Goffeaumic approach to life sciences. Yeast, 2019, 36, 157-159.	0.8	0