Sarah M Assmann

List of Publications by Year
in descending order

122 papers	11,816 citations	25014 57 h-index	29127 104 g-index
133 all docs	133 docs citations	133 times ranked	9904 citing authors

#	Article	IF	Citations
1	Light Regulation of Stomatal Movement. Annual Review of Plant Biology, 2007, 58, 219-247.	8.6	732
2	In vivo genome-wide profiling of RNA secondary structure reveals novel regulatory features. Nature, 2014, 505, 696-700.	13.7	710
3	G Protein Regulation of Ion Channels and Abscisic Acid Signaling in Arabidopsis Guard Cells. Science, 2001, 292, 2070-2072.	6.0	480
4	Regulation of Abscisic Acid-Induced Stomatal Closure and Anion Channels by Guard Cell AAPK Kinase. Science, 2000, 287, 300-303.	6.0	434
5	Hormone interactions in stomatal function. Plant Molecular Biology, 2009, 69, 451-462.	2.0	424
6	Two Novel GPCR-Type G Proteins Are Abscisic Acid Receptors in Arabidopsis. Cell, 2009, 136, 136-148.	13.5	411
7	Signal Transduction in Guard Cells. Annual Review of Cell Biology, 1993, 9, 345-375.	26.0	402
8	Sphingolipid signalling in Arabidopsis guard cells involves heterotrimeric G proteins. Nature, 2003, 423, 651-654.	13.7	343
9	The Arabidopsis Putative G Proteinâ€“Coupled Receptor GCR1 Interacts with the G Protein Î± Subunit GPA1 and Regulates Abscisic Acid Signaling. Plant Cell, 2004, 16, 1616-1632.	3.1	309
10	Plants: the latest model system for Gâ€protein research. EMBO Reports, 2004, 5, 572-578.	2.0	219
11	G-Protein Complex Mutants Are Hypersensitive to Abscisic Acid Regulation of Germination and Postgermination Development. Plant Physiology, 2006, 141, 243-256.	2.3	219
12	Border Controlâ€”A Membrane-Linked Interactome of Arabidopsis. Science, 2014, 344, 711-716.	6.0	213
13	Plant heterotrimeric G protein function: insights from Arabidopsis and rice mutants. Current Opinion in Plant Biology, 2004, 7, 719-731.	3.5	211
14	Guard cells: a dynamic signaling model. Current Opinion in Plant Biology, 2004, 7, 537-546.	3.5	209
15	Heterotrimeric and Unconventional GTP Binding Proteins in Plant Cell Signaling. Plant Cell, 2002, 14, S355-S373.	3.1	190
16	An atypical heterotrimeric Gâ€protein Î³â€subunit is involved in guard cell K⁺â€channel regulation and morphological development in Arabidopsis thaliana. Plant Journal, 2011, 67, 840-851.	2.8	190
17	50Âyears of Arabidopsis research: highlights and future directions. New Phytologist, 2016, 209, 921-944.	3.5	186
18	Genome-Wide Analysis of RNA Secondary Structure. Annual Review of Genetics, 2016, 50, 235-266.	3.2	186

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19	Significant reduction of Bi<scp>FC</scp> nonâ€specific assembly facilitates in planta assessment of heterotrimeric Gâ€protein interactors. Plant Journal, 2014, 80, 553-567.	2.8	184
20	The plant innate immunity response in stomatal guard cells invokes Gâ€proteinâ€dependent ion channel regulation. Plant Journal, 2008, 56, 984-996.	2.8	181
21	Guard cell sensory systems: recent insights on stomatal responses to light, abscisic acid, and CO2. Current Opinion in Plant Biology, 2016, 33, 157-167.	3.5	181
22	Open Stomata 1 (<scp>OST</scp>1) is limiting in abscisic acid responses of Arabidopsis guard cells. New Phytologist, 2013, 200, 1049-1063.	3.5	171
23	Modulation of an RNA-binding protein by abscisic-acid-activated protein kinase. Nature, 2002, 418, 793-797.	13.7	169
24	The RNA structurome: transcriptome-wide structure probing with next-generation sequencing. Trends in Biochemical Sciences, 2015, 40, 221-232.	3.7	137
25	A membrane protein / signaling protein interaction network for Arabidopsis version AMPv2. Frontiers in Physiology, 2010, 1, 24.	1.3	131
26	ABAâ€deficient (aba1)andABAâ€insensitive (abi1â€1, abi2â€1) mutants ofArabidopsishave a wildâ€type stomatal response to humidity. Plant, Cell and Environment, 2000, 23, 387-395.	2.8	125
27	Boolean modeling of transcriptome data reveals novel modes of heterotrimeric Gâ€protein action. Molecular Systems Biology, 2010, 6, 372.	3.2	117
28	OPEN STOMATA1 opens the door to ABA signaling in Arabidopsis guard cells. Trends in Plant Science, 2003, 8, 151-153.	4.3	114
29	Heterotrimeric G-protein regulation of ROS signalling and calcium currents in Arabidopsis guard cells. Journal of Experimental Botany, 2011, 62, 2371-2379.	2.4	114
30	Determination of in vivo RNA structure in low-abundance transcripts. Nature Communications, 2013, 4, 2971.	5.8	113
31	Plant single-cell and single-cell-type metabolomics. Trends in Plant Science, 2014, 19, 637-646.	4.3	110
32	Arabidopsis extraâ€large G proteins (XLGs) regulate root morphogenesis. Plant Journal, 2008, 53, 248-263.	2.8	109
33	Bridging the gap betweenin vitroandin vivoRNA folding. Quarterly Reviews of Biophysics, 2016, 49, e10.	2.4	108
34	Abscisic acid regulation of guard-cell K ⁺ and anion channels in Gî²- and RGS-deficient Arabidopsis lines. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8476-8481.	3.3	107
35	Structure-seq2: sensitive and accurate genome-wide profiling of RNA structure in vivo. Nucleic Acids Research, 2017, 45, e135-e135.	6.5	104
36	Arabidopsis Extra Large G-Protein 2 (XLG2) Interacts with the Gî² Subunit of Heterotrimeric G Protein and Functions in Disease Resistance. Molecular Plant, 2009, 2, 513-525.	3.9	99

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37	Extra-Large G Proteins Expand the Repertoire of Subunits in Arabidopsis Heterotrimeric G Protein Signaling. Plant Physiology, 2015, 169, 512-529.	2.3	97
38	Effect of brassinolide, alone and in concert with abscisic acid, on control of stomatal aperture and potassium currents of Vicia faba guard cell protoplasts. Physiologia Plantarum, 2006, 128, 134-143.	2.6	92
39	Arabidopsis thaliana 'extra-large GTP-binding protein' (AtXLG1): a new class of G-protein. Plant Molecular Biology, 1999, 40, 55-64.	2.0	90
40	Genome-wide profiling of in vivo RNA structure at single-nucleotide resolution using structure-seq. Nature Protocols, 2015, 10, 1050-1066.	5.5	87
41	Genome-wide RNA structurome reprogramming by acute heat shock globally regulates mRNA abundance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12170-12175.	3.3	83
42	Preparation and applications of Arabidopsis thaliana guard cell protoplasts. New Phytologist, 2002, 153, 517-526.	3.5	82
43	Whole proteome identification of plant candidate G-protein coupled receptors in Arabidopsis, rice, and poplar: computational prediction and in-vivo protein coupling. Genome Biology, 2008, 9, R120.	13.9	81
44	The Î±-Subunit of the Arabidopsis Heterotrimeric G Protein, GPA1, Is a Regulator of Transpiration Efficiency. Plant Physiology, 2010, 152, 2067-2077.	2.3	80
45	Abscisic Acidâ€“Responsive Guard Cell Metabolomes of Arabidopsis Wild-Type and gpa1 G-Protein Mutants Â. Plant Cell, 2014, 25, 4789-4811.	3.1	79
46	Multi-level Modeling of Light-Induced Stomatal Opening Offers New Insights into Its Regulation by Drought. PLoS Computational Biology, 2014, 10, e1003930.	1.5	77
47	The G Protein Î²-Subunit, AGB1, Interacts with FERONIA in RALF1-Regulated Stomatal Movement. Plant Physiology, 2018, 176, 2426-2440.	2.3	77
48	GÎ³1 + GÎ³2 =Ì¸ GÎ²: Heterotrimeric G Protein GÎ³-Deficient Mutants Do Not Recapitulate All Phenotypes of GÎ²-Deficient Mutants Â Â Â. Plant Physiology, 2008, 147, 636-649.	2.3	75
49	A new discrete dynamic model of ABA-induced stomatal closure predicts key feedback loops. PLoS Biology, 2017, 15, e2003451.	2.6	75
50	G Proteins Go Green: A Plant G Protein Signaling FAQ Sheet. Science, 2005, 310, 71-73.	6.0	73
51	Regulation of rootâ€wave response by extra large and conventional G proteins in Arabidopsis thaliana. Plant Journal, 2008, 55, 311-322.	2.8	72
52	Modeling RNA secondary structure folding ensembles using SHAPE mapping data. Nucleic Acids Research, 2018, 46, 314-323.	6.5	72
53	A stable RNA G-quadruplex within the 5â€²-UTR of Arabidopsis thaliana ATR mRNA inhibits translation. Biochemical Journal, 2015, 467, 91-102.	1.7	71
54	The guard cell metabolome: functions in stomatal movement and global food security. Frontiers in Plant Science, 2015, 6, 334.	1.7	71

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55	Overexpression of woundâ€responsive RNAâ€binding proteins induces leaf senescence and hypersensitiveâ€like cell death. New Phytologist, 2008, 180, 57-70.	3.5	70
56	Molecular and systems approaches towards droughtâ€tolerant canola crops. New Phytologist, 2016, 210, 1169-1189.	3.5	70
57	Phenotypic and genome-wide association with the local environment of Arabidopsis. Nature Ecology and Evolution, 2019, 3, 274-285.	3.4	67
58	Probing RNA structure in vivo. Current Opinion in Structural Biology, 2019, 59, 151-158.	2.6	66
59	Characterization of the Arabidopsis Heterotrimeric G Protein. Journal of Biological Chemistry, 2008, 283, 13913-13922.	1.6	61
60	The Î±-subunit of the rice heterotrimeric G protein, RGA1, regulates drought tolerance during the vegetative phase in the dwarf rice mutantd1. Journal of Experimental Botany, 2016, 67, 3433-3443.	2.4	61
61	G protein subunit phosphorylation as a regulatory mechanism in heterotrimeric G protein signaling in mammals, yeast, and plants. Biochemical Journal, 2018, 475, 3331-3357.	1.7	53
62	Differential Responses of Abaxial and Adaxial Guard Cells of Broad Bean to Abscisic Acid and Calcium. Plant Physiology, 1998, 118, 1421-1429.	2.3	52
63	Ca2+-dependent GTPase, Extra-large G Protein 2 (XLG2), Promotes Activation of DNA-binding Protein Related to Vernalization 1 (RTV1), Leading to Activation of Floral Integrator Genes and Early Flowering in Arabidopsis. Journal of Biological Chemistry, 2012, 287, 8242-8253.	1.6	51
64	Evolution and Structural Characteristics of Plant Voltage-Gated K⁺ Channels. Plant Cell, 2018, 30, 2898-2909.	3.1	51
65	Increases in cytosolic Ca 2+ are not required for abscisic acid-inhibition of inward K + currents in guard cells of Vicia faba L.. Planta, 2000, 211, 209-217.	1.6	49
66	Plant G Proteins, Phytohormones, and Plasticity: Three Questions and a Speculation. Science Signaling, 2004, 2004, re20-re20.	1.6	47
67	Directions for research and training in plant omics: Big Questions and Big Data. Plant Direct, 2019, 3, e00133.	0.8	47
68	Apparent Absence of a Redox Requirement for Blue Light Activation of Pump Current in Broad Bean Guard Cells. Plant Physiology, 2001, 125, 329-338.	2.3	45
69	Natural Variation in Abiotic Stress and Climate Change Responses inArabidopsis: Implications for Twenty-First-Century Agriculture. International Journal of Plant Sciences, 2013, 174, 3-26.	0.6	44
70	StructureFold: genome-wide RNA secondary structure mapping and reconstruction inÂvivo. Bioinformatics, 2015, 31, 2668-2675.	1.8	43
71	Interâ€relationships between the heterotrimeric GÎ² subunit AGB1, the receptorâ€like kinase FERONIA, and RALF1 in salinity response. Plant, Cell and Environment, 2018, 41, 2475-2489.	2.8	42
72	A hybridization-based approach for quantitative and low-bias single-stranded DNA ligation. Analytical Biochemistry, 2013, 435, 181-186.	1.1	41

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73	Evidence for an unusual transmembrane configuration of AGG3, a class C GÎ³ subunit of Arabidopsis. Plant Journal, 2015, 81, 388-398.	2.8	41
74	Metabolic Signatures in Response to Abscisic Acid (ABA) Treatment in Brassica napus Guard Cells Revealed by Metabolomics. Scientific Reports, 2017, 7, 12875.	1.6	39
75	Heterotrimeric G proteins regulate reproductive trait plasticity in response to water availability. New Phytologist, 2010, 185, 734-746.	3.5	38
76	Glyoxals as in vivo RNA structural probes of guanine base-pairing. Rna, 2018, 24, 114-124.	1.6	38
77	The Role of Dwarfing Traits in Historical and Modern Agriculture with a Focus on Rice. Cold Spring Harbor Perspectives in Biology, 2019, 11, a034645.	2.3	38
78	mRNA structural elements immediately upstream of the start codon dictate dependence upon eIF4A helicase activity. Genome Biology, 2019, 20, 300.	3.8	38
79	The heterotrimeric <scp>G</scp>â€protein Î² subunit, <scp>AGB</scp>1, plays multiple roles in the <scp>A</scp>rabidopsis salinity response. Plant, Cell and Environment, 2015, 38, 2143-2156.	2.8	37
80	In vivo RNA structural probing of uracil and guanine base-pairing by 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide (EDC). Rna, 2019, 25, 147-157.	1.6	37
81	Illuminating the role of the GÎ± heterotrimeric G protein subunit, RGA1, in regulating photoprotection and photoavoidance in rice. Plant, Cell and Environment, 2018, 41, 451-468.	2.8	36
82	Model-driven discovery of calcium-related protein-phosphatase inhibition in plant guard cell signaling. PLoS Computational Biology, 2019, 15, e1007429.	1.5	34
83	Technique Development for Probing RNA Structure In Vivo and Genome-Wide. Cold Spring Harbor Perspectives in Biology, 2018, 10, a032250.	2.3	32
84	Preparation of Epidermal Peels and Guard Cell Protoplasts for Cellular, Electrophysiological, and -Omics Assays of Guard Cell Function. Methods in Molecular Biology, 2016, 1363, 89-121.	0.4	30
85	A Guard Cell Abscisic Acid (ABA) Network Model That Captures the Stomatal Resting State. Frontiers in Physiology, 2020, 11, 927.	1.3	28
86	Discrete Dynamic Modeling with Asynchronous Update, or How to Model Complex Systems in the Absence of Quantitative Information. Methods in Molecular Biology, 2009, 553, 207-225.	0.4	28
87	RNA multimerization as an organizing force for liquidâ€“liquid phase separation. Rna, 2022, 28, 16-26.	1.6	27
88	StructureFold2: Bringing chemical probing data into the computational fold of RNA structural analysis. Methods, 2018, 143, 12-15.	1.9	26
89	A kinaseâ€dead version of <scp>FERONIA</scp> receptorâ€like kinase has doseâ€dependent impacts on rosette morphology and <scp>RALF</scp>1â€mediated stomatal movements. FEBS Letters, 2018, 592, 3429-3437.	1.3	25
90	Metabolomics of redâ€lightâ€induced stomatal opening in Arabidopsis thaliana: Coupling with abscisic acid and jasmonic acid metabolism. Plant Journal, 2020, 101, 1331-1348.	2.8	25

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91	Tissue-specific changes in the RNA structurome mediate salinity response in Arabidopsis. Rna, 2020, 26, 492-511.	1.6	25
92	The effect of NaCl on stomatal opening in Arabidopsis wild type andagb1heterotrimeric G-protein mutant plants. Plant Signaling and Behavior, 2016, 11, e1085275.	1.2	24
93	Nucleotide exchangeâ€“dependent and nucleotide exchangeâ€“independent functions of plant heterotrimeric GTP-binding proteins. Science Signaling, 2019, 12, .	1.6	24
94	A G protein-coupled receptor-like module regulates cellulose synthase secretion from the endomembrane system in Arabidopsis. Developmental Cell, 2021, 56, 1484-1497.e7.	3.1	23
95	Redox regulation of a guard cell SNF1-related protein kinase in Brassica napus, an oilseed crop. Biochemical Journal, 2017, 474, 2585-2599.	1.7	21
96	Genome-wide analysis of the inÂvivo tRNA structurome reveals RNA structural and modification dynamics under heat stress. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	20
97	G Protein Regulation of Disease Resistance During Infection of Rice with Rice Blast Fungus. Science Signaling, 2005, 2005, cm13-cm13.	1.6	17
98	Expression of potato RNA-binding proteins StUBA2a/b and StUBA2c induces hypersensitive-like cell death and early leaf senescence in Arabidopsis. Journal of Experimental Botany, 2015, 66, 4023-4033.	2.4	17
99	The Arabidopsis heterotrimeric Gâ€protein Î² subunit, <scp>AGB</scp>1, is required for guard cell calcium sensing and calciumâ€induced calcium release. Plant Journal, 2019, 99, 231-244.	2.8	17
100	Structure-seq2 probing of RNA structure upon amino acid starvation reveals both known and novel RNA switches in Bacillus subtilis. Rna, 2020, 26, 1431-1447.	1.6	15
101	GTP binding by Arabidopsis extra-large G protein 2 is not essential for its functions. Plant Physiology, 2021, 186, 1240-1253.	2.3	15
102	The Î± subunit of the heterotrimeric G protein regulates mesophyll CO₂ conductance and drought tolerance in rice. New Phytologist, 2021, 232, 2324-2338.	3.5	15
103	Protein Structure Is Related to RNA Structural Reactivity In Vivo. Journal of Molecular Biology, 2016, 428, 758-766.	2.0	14
104	Arabidopsis bioinformatics resources: The current state, challenges, and priorities for the future. Plant Direct, 2019, 3, e00109.	0.8	14
105	Molecular changes in Mesembryanthemum crystallinum guard cells underlying the C3 to CAM transition. Plant Molecular Biology, 2020, 103, 653-667.	2.0	14
106	Seal-promoting solutions and pipette perfusion for patch clamping plant cells. Plant Journal, 1997, 11, 891-896.	2.8	11
107	The Next Generation of Training for Arabidopsis Researchers: Bioinformatics and Quantitative Biology. Plant Physiology, 2017, 175, 1499-1509.	2.3	11
108	A laser microsurgical method of cell wall removal allows detection of largeconductance ion channels in the guard cell plasma membrane. Protoplasma, 1999, 209, 58-67.	1.0	10

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109	G Protein Signaling in the Regulation of Rice Seed Germination. Science Signaling, 2005, 2005, cm12-cm12.	1.6	10
110	G Protein Signaling in the Regulation of Arabidopsis Seed Germination. Science Signaling, 2005, 2005, cm11-cm11.	1.6	10
111	In Vivo Genome-Wide RNA Structure Probing with Structure-seq. Methods in Molecular Biology, 2019, 1933, 305-341.	0.4	10
112	Experimental demonstration and pan-structurome prediction of climate-associated riboSNitches in Arabidopsis. Genome Biology, 2022, 23, 101.	3.8	10
113	Advances and perspectives in the metabolomics of stomatal movement and the disease triangle. Plant Science, 2021, 302, 110697.	1.7	7
114	Crosstalk in Pathogen and Hormonal Regulation of Guard Cell Signaling. , 0, , 96-112.		6
115	Metabolite Transporter Regulation of ABA Function and Guard Cell Response. Molecular Plant, 2014, 7, 1505-1507.	3.9	5
116	pgd1, an Arabidopsis thaliana deletion mutant, is defective in pollen germination. Sexual Plant Reproduction, 2007, 20, 137-149.	2.2	4
117	Hope for Humpty Dumpty: Systems Biology of Cellular Signaling. Plant Physiology, 2010, 152, 470-479.	2.3	4
118	Cantil: a previously unreported organ in wild-type Arabidopsis regulated by FT, ERECTA and heterotrimeric G proteins. Development (Cambridge), 2021, 148, .	1.2	4
119	A LASER-focused view into cells. Nature Chemical Biology, 2018, 14, 200-201.	3.9	2
120	External Cd2+ and protons activate the hyperpolarization-gated K+ channel KAT1 at the voltage sensor. Journal of General Physiology, 2021, 153, .	0.9	1
121	An Overview of Systems Biology. , 0, , 41-66.		1
122	Heterotrimeric G-Protein-Coupled Signaling in Higher Plants. , 0, , 30-63.		0