Tetsuya Higashiyama

List of Publications by Year
in descending order

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Version: 2024-02-01

121 papers	9,945 citations	38742 50 h-index	38395 95 g-index
122 all docs	122 docs citations	122 times ranked	9426 citing authors

#	Article	IF	Citations
1	Genome sequence of the ultrasmall unicellular red alga Cyanidioschyzon merolae 10D. Nature, 2004, 428, 653-657.	27.8	1,016
2	Defensin-like polypeptide LUREs are pollen tube attractants secreted from synergid cells. Nature, 2009, 458, 357-361.	27.8	548
3	GENERATIVE CELL SPECIFIC 1 is essential for angiosperm fertilization. Nature Cell Biology, 2006, 8, 64-71.	10.3	413
4	Pollen Tube Attraction by the Synergid Cell. Science, 2001, 293, 1480-1483.	12.6	363
5	DNA Staining for Fluorescence and Laser Confocal Microscopy. Journal of Histochemistry and Cytochemistry, 1997, 45, 49-53.	2.5	298
6	Tip-localized receptors control pollen tube growth and LURE sensing in Arabidopsis. Nature, 2016, 531, 245-248.	27.8	260
7	Transcriptional repressor PRR5 directly regulates clock-output pathways. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17123-17128.	7.1	253
8	Distinct Dynamics of HISTONE3 Variants between the Two Fertilization Products in Plants. Current Biology, 2007, 17, 1032-1037.	3.9	252
9	Ca²⁺-Activated Reactive Oxygen Species Production by Arabidopsis RbohH and RbohJ Is Essential for Proper Pollen Tube Tip Growth. Plant Cell, 2014, 26, 1069-1080.	6.6	243
10	A Species-Specific Cluster of Defensin-Like Genes Encodes Diffusible Pollen Tube Attractants in Arabidopsis. PLoS Biology, 2012, 10, e1001449.	5.6	238
11	Rare allele of a previously unidentified histone H4 acetyltransferase enhances grain weight, yield, and plant biomass in rice. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 76-81.	7.1	236
12	Direct Repression of Evening Genes by CIRCADIAN CLOCK-ASSOCIATED1 in the Arabidopsis Circadian Clock. Plant Cell, 2016, 28, 696-711.	6.6	227
13	DNA Methylation Dynamics during Sexual Reproduction in Arabidopsis thaliana. Current Biology, 2012, 22, 1825-1830.	3.9	214
14	A Plant-Specific Dynamin-Related Protein Forms a Ring at the Chloroplast Division Site. Plant Cell, 2003, 15, 655-665.	6.6	204
15	Live-Cell Imaging Reveals the Dynamics of Two Sperm Cells during Double Fertilization in Arabidopsis thaliana. Current Biology, 2011, 21, 497-502.	3.9	187
16	pKAMA-ITACHI Vectors for Highly Efficient CRISPR/Cas9-Mediated Gene Knockout inArabidopsis thaliana. Plant and Cell Physiology, 2017, 58, pcw191.	3.1	168
17	Double fertilization â€“ caught in the act. Trends in Plant Science, 2008, 13, 437-443.	8.8	166
18	Environmentâ€Sensitive Fluorescent Probe: A Benzophosphole Oxide with an Electronâ€Donating Substituent. Angewandte Chemie - International Edition, 2015, 54, 4539-4543.	13.8	162

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19	Active digestion of sperm mitochondrial DNA in single living sperm revealed by optical tweezers. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 1382-1387.	7.1	139
20	Independent Control by Each Female Gamete Prevents the Attraction of Multiple Pollen Tubes. Developmental Cell, 2013, 25, 317-323.	7.0	133
21	Live-Cell Imaging and Optical Manipulation of Arabidopsis Early Embryogenesis. Developmental Cell, 2015, 34, 242-251.	7.0	132
22	Cytoskeleton dynamics control the first asymmetric cell division in Arabidopsis zygote. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14157-14162.	7.1	129
23	Transcriptional repression by <scp>MYB</scp> 3R proteins regulates plant organ growth. EMBO Journal, 2015, 34, 1992-2007.	7.8	128
24	Super-Photostable Phosphole-Based Dye for Multiple-Acquisition Stimulated Emission Depletion Imaging. Journal of the American Chemical Society, 2017, 139, 10374-10381.	13.7	120
25	Fertilization Recovery after Defective Sperm Cell Release in Arabidopsis. Current Biology, 2012, 22, 1084-1089.	3.9	118
26	Pollen-tube guidance: beacons from the female gametophyte. Current Opinion in Plant Biology, 2003, 6, 36-41.	7.1	115
27	Gametophytic pollen tube guidance. Sexual Plant Reproduction, 2008, 21, 17-26.	2.2	115
28	Transcriptional integration of paternal and maternal factors in the Arabidopsis zygote. Genes and Development, 2017, 31, 617-627.	5.9	114
29	Rapid Elimination of the Persistent Synergid through a Cell Fusion Mechanism. Cell, 2015, 161, 907-918.	28.9	111
30	Cell-cell adhesion in plant grafting is facilitated by Î²-1,4-glucanases. Science, 2020, 369, 698-702.	12.6	108
31	Identification of mRNAs that Move Over Long Distances Using an RNA-Seq Analysis of Arabidopsis/Nicotiana benthamiana Heterografts. Plant and Cell Physiology, 2015, 56, 311-321.	3.1	104
32	The AMOR Arabinogalactan Sugar Chain Induces Pollen-Tube Competency to Respond to Ovular Guidance. Current Biology, 2016, 26, 1091-1097.	3.9	103
33	A Waterâ€Soluble Warped Nanographene: Synthesis and Applications for Photoinduced Cell Death. Angewandte Chemie - International Edition, 2018, 57, 2874-2878.	13.8	102
34	Gametophytic Pollen Tube Guidance: Attractant Peptides, Gametic Controls, and Receptors. Plant Physiology, 2017, 173, 112-121.	4.8	100
35	MYB30 links ROS signaling, root cell elongation, and plant immune responses. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E4710-E4719.	7.1	98
36	Peptide Signaling in Pollen-Pistil Interactions. Plant and Cell Physiology, 2010, 51, 177-189.	3.1	96

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37	Loss of function at RAE2 , a previously unidentified EPFL, is required for awnlessness in cultivated Asian rice. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8969-8974.	7.1	94
38	HMG Domain Containing SSRP1 Is Required for DNA Demethylation and Genomic Imprinting inÂArabidopsis. Developmental Cell, 2011, 21, 589-596.	7.0	87
39	Species Preferentiality of the Pollen Tube Attractant Derived from the Synergid Cell of Torenia fournieri. Plant Physiology, 2006, 142, 481-491.	4.8	82
40	The active digestion of uniparental chloroplast DNA in a single zygote of Chlamydomonas reinhardtii is revealed by using the optical tweezer. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 12577-12582.	7.1	78
41	Double fertilization on the move. Current Opinion in Plant Biology, 2012, 15, 70-77.	7.1	76
42	An mt+ gamete-specific nuclease that targets mt- chloroplasts during sexual reproduction in C. reinhardtii. Genes and Development, 2002, 16, 1116-1128.	5.9	73
43	Polar vacuolar distribution is essential for accurate asymmetric division of Arabidopsis zygotes. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2338-2343.	7.1	71
44	Semi-Automatic Laser Beam Microdissection of the Y Chromosome and Analysis of Y Chromosome DNA in a Dioecious Plant, Silene latifolia. Plant and Cell Physiology, 1999, 40, 60-68.	3.1	70
45	An EAR-Dependent Regulatory Module Promotes Male Germ Cell Division and Sperm Fertility in Arabidopsis. Plant Cell, 2014, 26, 2098-2113.	6.6	67
46	Time-Course Transcriptomics Analysis Reveals Key Responses of Submerged Deepwater Rice to Flooding. Plant Physiology, 2018, 176, 3081-3102.	4.8	64
47	RNA-Seq Analysis of the Response of the Halophyte, Mesembryanthemum crystallinum (Ice Plant) to High Salinity. PLoS ONE, 2015, 10, e0118339.	2.5	62
48	Identification and characterization of TcCRP1, a pollen tube attractant from Torenia concolor. Annals of Botany, 2011, 108, 739-747.	2.9	57
49	Explosive Discharge of Pollen Tube Contents inTorenia fournieri. Plant Physiology, 2000, 122, 11-14.	4.8	56
50	Structural basis for receptor recognition of pollen tube attraction peptides. Nature Communications, 2017, 8, 1331.	12.8	55
51	Attraction of tip-growing pollen tubes by the female gametophyte. Current Opinion in Plant Biology, 2011, 14, 614-621.	7.1	53
52	The biparental transmission of the mitochondrial genome in Chlamydomonas reinhardtii visualized in living cells. European Journal of Cell Biology, 1998, 77, 124-133.	3.6	52
53	A comprehensive strategy for identifying longâ€distance mobile peptides in xylem sap. Plant Journal, 2015, 84, 611-620.	5.7	51
54	Hormone Distribution and Transcriptome Profiles in Bamboo Shoots Provide Insights on Bamboo Stem Emergence and Growth. Plant and Cell Physiology, 2017, 58, 702-716.	3.1	50

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55	Two-photon imaging with longer wavelength excitation in intact Arabidopsis tissues. Protoplasma, 2015, 252, 1231-1240.	2.1	49
56	Peptide signaling in pollen tube guidance. Current Opinion in Plant Biology, 2015, 28, 127-136.	7.1	47
57	Arabinogalactan proteins and their sugar chains: functions in plant reproduction, research methods, and biosynthesis. Plant Reproduction, 2018, 31, 67-75.	2.2	45
58	Mitochondrial Dynamics in Plant Male Gametophyte Visualized by Fluorescent Live Imaging. Plant and Cell Physiology, 2008, 49, 1074-1083.	3.1	44
59	Gene Regulatory Networks for the Haploid-to-Diploid Transition of Chlamydomonas reinhardtii. Plant Physiology, 2017, 175, 314-332.	4.8	42
60	Jasmonic acid facilitates flower opening and floral organ development through the upregulated expression of SlMYB21 transcription factor in tomato. Bioscience, Biotechnology and Biochemistry, 2018, 82, 292-303.	1.3	41
61	The Simplest Integrated Multicellular Organism Unveiled. PLoS ONE, 2013, 8, e81641.	2.5	40
62	Identification of Phosphoinositide-Binding Protein PATELLIN2 as a Substrate of Arabidopsis MPK4 MAP Kinase during Septum Formation in Cytokinesis. Plant and Cell Physiology, 2016, 57, 1744-1755.	3.1	39
63	Pollen tube contents initiate ovule enlargement and enhance seed coat development without fertilization. Science Advances, 2016, 2, e1600554.	10.3	37
64	Acquisition of LURE-Binding Activity at the Pollen Tube Tip of Torenia fournieri. Molecular Plant, 2013, 6, 1074-1090.	8.3	34
65	A microfluidic device for quantitative analysis of chemoattraction in plants. RSC Advances, 2013, 3, 22301.	3.6	33
66	Diverse Functions of Plant Peptides: Entering a New Phase. Plant and Cell Physiology, 2011, 52, 1-4.	3.1	32
67	Antisense gene inhibition by phosphorothioate antisense oligonucleotide in Arabidopsis pollen tubes. Plant Journal, 2014, 78, 516-526.	5.7	31
68	The Restorerâ€ofâ€fertilityâ€like 2 pentatricopeptide repeat protein and <scp>RN</scp>ase P are required for the processing of mitochondrial orf291 <scp>RNA</scp> in Arabidopsis. Plant Journal, 2016, 86, 504-513.	5.7	30
69	Type IV Collagen Controls the Axogenesis of Cerebellar Granule Cells by Regulating Basement Membrane Integrity in Zebrafish. PLoS Genetics, 2015, 11, e1005587.	3.5	29
70	A glial K⁺/Cl^{â^'} cotransporter modifies temperatureâ€evoked dynamics in Caenorhabditis elegans sensory neurons. Genes, Brain and Behavior, 2016, 15, 429-440.	2.2	29
71	Live Imaging and Laser Disruption Reveal the Dynamics and Cellâ€“Cell Communication During Torenia fournieri Female Gametophyte Development. Plant and Cell Physiology, 2015, 56, 1031-1041.	3.1	28
72	Chemical Visualization of an Attractant Peptide, LURE. Plant and Cell Physiology, 2011, 52, 49-58.	3.1	27

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73	Cell fusion and nuclear fusion in plants. Seminars in Cell and Developmental Biology, 2016, 60, 127-135.	5.0	26
74	Structure-Activity Relation of AMOR Sugar Molecule That Activates Pollen-Tubes for Ovular Guidance. Plant Physiology, 2017, 173, 354-363.	4.8	26
75	Dynamics of the cell fate specifications during female gametophyte development in Arabidopsis. PLoS Biology, 2021, 19, e3001123.	5.6	26
76	Pollen Tube Guidance by Attractant Molecules: LUREs. Cell Structure and Function, 2010, 35, 45-52.	1.1	25
77	Liveâ€cell analysis of plant reproduction: Liveâ€cell imaging, optical manipulation, and advanced microscopy technologies. Development Growth and Differentiation, 2013, 55, 462-473.	1.5	24
78	Fertilization recovery system is dependent on the number of pollen grains for efficient reproduction in plants. Plant Signaling and Behavior, 2013, 8, e23690.	2.4	21
79	Haspin has Multiple Functions in the Plant Cell Division Regulatory Network. Plant and Cell Physiology, 2016, 57, 848-861.	3.1	21
80	Characterization of the Nicotianamine Exporter ENA1 in Rice. Frontiers in Plant Science, 2019, 10, 502.	3.6	21
81	Arabidopsis ASYMMETRIC LEAVES2 protein required for leaf morphogenesis consistently forms speckles during mitosis of tobacco BY-2 cells via signals in its specific sequence. Journal of Plant Research, 2012, 125, 661-668.	2.4	20
82	Generation of a homozygous fertilization-defective gcs1 mutant by heat-inducible removal of a rescue gene. Plant Reproduction, 2015, 28, 33-46.	2.2	20
83	Chemotaxis assay of plant-parasitic nematodes on a gel-filled microchannel device. Sensors and Actuators B: Chemical, 2015, 221, 1483-1491.	7.8	19
84	Spatiotemporal deep imaging of syncytium induced by the soybean cyst nematode Heterodera glycines. Protoplasma, 2017, 254, 2107-2115.	2.1	19
85	Cyanobacterial Genes Transmitted to the Nucleus Before Divergence of Red Algae in the Chromista. Journal of Molecular Evolution, 2004, 59, 103-13.	1.8	17
86	Fertilization-Coupled Sperm Nuclear Fusion Is Required for Normal Endosperm Nuclear Proliferation. Plant and Cell Physiology, 2020, 61, 29-40.	3.1	17
87	Identification of higher plant GlsA, a putative morphogenesis factor of gametic cells. Biochemical and Biophysical Research Communications, 2003, 306, 564-569.	2.1	15
88	DNA packaging proteins Glom and Glom2 coordinately organize the mitochondrial nucleoid of Physarum polycephalum. Mitochondrion, 2011, 11, 575-586.	3.4	15
89	Fabrication of microcage arrays to fix plant ovules for long-term live imaging and observation. Sensors and Actuators B: Chemical, 2014, 191, 178-185.	7.8	15
90	Pelargonium embryogenesis: cytological investigations of organelles in early embryogenesis from the egg to the two-celled embryo. Sexual Plant Reproduction, 2002, 15, 1-12.	2.2	14

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91	The carboxyl-terminal tail of the stalk of Arabidopsis NACK1/HINKEL kinesin is required for its localization to the cell plate formation site. Journal of Plant Research, 2015, 128, 327-336.	2.4	14
92	Development of the Mitsucal computer system to identify causal mutation with a high-throughput sequencer. Plant Reproduction, 2018, 31, 117-128.	2.2	14
93	The end of temptation: the elimination of persistent synergid cell identity. Current Opinion in Plant Biology, 2016, 34, 122-126.	7.1	13
94	Hoxa13 regulates expression of common Hox target genes involved in cartilage development to coordinate the expansion of the autopodal anlage. Development Growth and Differentiation, 2019, 61, 228-251.	1.5	13
95	Dynamic Rearrangement and Directional Migration of Tubular Vacuoles are Required for the Asymmetric Division of the Arabidopsis Zygote. Plant and Cell Physiology, 2021, 62, 1280-1289.	3.1	13
96	Growth assay of individual pollen tubes arrayed by microchannel device. Microelectronic Engineering, 2014, 118, 25-28.	2.4	12
97	Capacitation in Plant and Animal Fertilization. Trends in Plant Science, 2018, 23, 129-139.	8.8	12
98	Plant Reproduction: Autocrine Machinery for the Long Journey of the Pollen Tube. Current Biology, 2018, 28, R266-R269.	3.9	11
99	PHYLOGENETIC IMPLICATIONS OF THE CAD COMPLEX FROM THE PRIMITIVE RED ALGA CYANIDIOSCHYZON MEROLAE (CYANIDIALES, RHODOPHYTA)1. Journal of Phycology, 2005, 41, 652-657.	2.3	10
100	Quantitative assessment of chemotropism in pollen tubes using microslit channel filters. Biomicrofluidics, 2018, 12, 024113.	2.4	10
101	Optical isolation of individual mitochondria ofPhysarum polycephalum for PCR analysis. Protoplasma, 1996, 194, 275-279.	2.1	9
102	Fertilization-independent Cell-fusion between the Synergid and Central Cell in the Polycomb Mutant. Cell Structure and Function, 2016, 41, 121-125.	1.1	8
103	Persistent directional growth capability in Arabidopsis thaliana pollen tubes after nuclear elimination from the apex. Nature Communications, 2021, 12, 2331.	12.8	8
104	Regulation of Brassica rapa chloroplast proliferation in vivo and in cultured leaf disks. Protoplasma, 2003, 222, 139-148.	2.1	7
105	Increase in Invaginated Vacuolar Membrane Structure Caused by Plant Cell Expansion by Genotoxic Stress Induced by DNA Double-Strand Breaks. Cytologia, 2014, 79, 467-474.	0.6	7
106	A pharmacological study of Arabidopsis cell fusion between the persistent synergid and endosperm. Journal of Cell Science, 2018, 131, .	2.0	6
107	Special issue on plant reproduction research in Asia. Plant Reproduction, 2018, 31, 1-2.	2.2	6
108	Poly(dimethylsiloxane)-based microdevices for studying plant reproduction. Biochemical Society Transactions, 2014, 42, 320-324.	3.4	5

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109	Spatial distribution of the RABBIT EARS protein and effects of its ectopic expression in Arabidopsis thaliana flowers. Planta, 2014, 239, 707-715.	3.2	5
110	Visualization of Plant Sexual Reproduction in the Whole-mount Pistil by ClearSee. Cytologia, 2016, 81, 1-2.	0.6	5
111	The DROL1 subunit of U5 snRNP in the spliceosome is specifically required to splice ATâ€“ACâ€type introns in Arabidopsis. Plant Journal, 2022, 109, 633-648.	5.7	5
112	Isolation of Gametophytic Cells and Identification of Their Cell-Specific Markers in Torenia fournieri, T. concolor and Lindernia micrantha. Cytologia, 2011, 76, 177-184.	0.6	4
113	Three sex phenotypes in a haploid algal species give insights into the evolutionary transition to a selfâ€compatible mating system*. Evolution; International Journal of Organic Evolution, 2021, 75, 2984-2993.	2.3	4
114	New Protein Pmn34 with an Exonuclease Motif Localizes in the Mitochondrial Nucleoid Periphery of Physarum polycephalum. Cytologia, 2009, 74, 401-407.	0.6	3
115	Pollen tube navigation can inspire microrobot design. Science Robotics, 2017, 2, .	17.6	3
116	Seeing is Believing: Advances in Plant Imaging Technologies. Plant and Cell Physiology, 2021, 62, 1217-1220.	3.1	3
117	Chemical synthesis of Torenia plant pollen tube attractant proteins by KAHA ligation. RSC Chemical Biology, 2022, 3, 721-727.	4.1	3
118	GPI-Anchored Proteins Cooperate in the Long Journey of the Pollen Tube. Molecular Plant, 2020, 13, 8-10.	8.3	2
119	Dynamics of mitochondrial distribution during development and asymmetric division of rice zygotes. Plant Reproduction, 2021, , 1.	2.2	1
120	Fluorescent Labeling of the Cyst Nematode Heterodera glycines in Deep-Tissue Live Imaging. Cytologia, 2017, 82, 251-259.	0.6	0
121	Quantification of Species-Preferential Micropylar Chemoattraction in Arabidopsis by Fluorescein Diacetate Staining of Pollen Tubes. International Journal of Molecular Sciences, 2022, 23, 2722.	4.1	0