Takanori Kobayashi

List of Publications by Year
in descending order

100 papers	11,868 citations	26630 56 h-index	34986 98 g-index
100 all docs	100 docs citations	100 times ranked	5017 citing authors

#	Article	IF	Citations
1	Iron Uptake, Translocation, and Regulation in Higher Plants. Annual Review of Plant Biology, 2012, 63, 131-152.	18.7	1,064
2	Rice plants take up iron as an Fe3+-phytosiderophore and as Fe2+. Plant Journal, 2006, 45, 335-346.	5.7	703
3	OsYSL2 is a rice metal-nicotianamine transporter that is regulated by iron and expressed in the phloem. Plant Journal, 2004, 39, 415-424.	5.7	496
4	Phytosiderophore Efflux Transporters Are Crucial for Iron Acquisition in Graminaceous Plants. Journal of Biological Chemistry, 2011, 286, 5446-5454.	3.4	473
5	Rice OsYSL15 Is an Iron-regulated Iron(III)-Deoxymugineic Acid Transporter Expressed in the Roots and Is Essential for Iron Uptake in Early Growth of the Seedlings. Journal of Biological Chemistry, 2009, 284, 3470-3479.	3.4	449
6	Iron deficiency enhances cadmium uptake and translocation mediated by the Fe2+transporters OsIRT1 and OsIRT2 in rice. Soil Science and Plant Nutrition, 2006, 52, 464-469.	1.9	408
7	Rice metal-nicotianamine transporter, OsYSL2, is required for the long-distance transport of iron and manganese. Plant Journal, 2010, 62, 379-390.	5.7	395
8	OsZIP4, a novel zinc-regulated zinc transporter in rice. Journal of Experimental Botany, 2005, 56, 3207-3214.	4.8	350
9	Three rice nicotianamine synthase genes, OsNAS1, OsNAS2, and OsNAS3 are expressed in cells involved in long-distance transport of iron and differentially regulated by iron. Plant Journal, 2003, 36, 366-381.	5.7	314
10	The rice bHLH protein OsIRO2 is an essential regulator of the genes involved in Fe uptake under Fe-deficient conditions. Plant Journal, 2007, 51, 366-377.	5.7	283
11	Biosynthesis and secretion of mugineic acid family phytosiderophores in zinc-deficient barley. Plant Journal, 2006, 48, 85-97.	5.7	234
12	Iron-binding haemerythrin RING ubiquitin ligases regulate plant iron responses and accumulation. Nature Communications, 2013, 4, 2792.	12.8	233
13	Isolation and characterization of IRO2, a novel iron-regulated bHLH transcription factor in graminaceous plants. Journal of Experimental Botany, 2006, 57, 2867-2878.	4.8	231
14	Iron transport and its regulation in plants. Free Radical Biology and Medicine, 2019, 133, 11-20.	2.9	231
15	Overexpression of the Barley Nicotianamine Synthase Gene HvNAS1 Increases Iron and Zinc Concentrations in Rice Grains. Rice, 2009, 2, 155-166.	4.0	207
16	The transcription factor IDEF1 regulates the response to and tolerance of iron deficiency in plants. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19150-19155.	7.1	194
17	Iron biofortification in rice by the introduction of multiple genes involved in iron nutrition. Scientific Reports, 2012, 2, 543.	3.3	194
18	A Novel NAC Transcription Factor, IDEF2, That Recognizes the Iron Deficiency-responsive Element 2 Regulates the Genes Involved in Iron Homeostasis in Plants. Journal of Biological Chemistry, 2008, 283, 13407-13417.	3.4	190

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19	cDNA microarray analysis of gene expression during Fe-deficiency stress in barley suggests that polar transport of vesicles is implicated in phytosiderophore secretion in Fe-deficient barley roots. Plant Journal, 2002, 30, 83-94.	5.7	184
20	OsYSL18 is a rice iron(III)â€"deoxymugineic acid transporter specifically expressed in reproductive organs and phloem of lamina joints. Plant Molecular Biology, 2009, 70, 681-692.	3.9	171
21	Expression of iron-acquisition-related genes in iron-deficient rice is co-ordinately induced by partially conserved iron-deficiency-responsive elements. Journal of Experimental Botany, 2005, 56, 1305-1316.	4.8	169
22	Deoxymugineic acid increases Zn translocation in Zn-deficient rice plants. Plant Molecular Biology, 2008, 66, 609-617.	3.9	169
23	OsIRO2 is responsible for iron utilization in rice and improves growth and yield in calcareous soil. Plant Molecular Biology, 2011, 75, 593-605.	3.9	167
24	Mutational reconstructed ferric chelate reductase confers enhanced tolerance in rice to iron deficiency in calcareous soil. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7373-7378.	7.1	151
25	Identification of novelcis-acting elements, IDE1 and IDE2, of the barleyIDS2gene promoter conferring iron-deficiency-inducible, root-specific expression in heterogeneous tobacco plants. Plant Journal, 2003, 36, 780-793.	5.7	149
26	Role of the iron transporter OsNRAMP1 in cadmium uptake and accumulation in rice. Plant Signaling and Behavior, 2011, 6, 1813-1816.	2.4	141
27	Identification and localisation of the rice nicotianamine aminotransferase gene OsNAAT1 expression suggests the site of phytosiderophore synthesis in rice. Plant Molecular Biology, 2008, 66, 193-203.	3.9	139
28	Increase in Iron and Zinc Concentrations in Rice Grains Via the Introduction of Barley Genes Involved in Phytosiderophore Synthesis. Rice, 2008, 1, 100-108.	4.0	134
29	The rice transcription factor IDEF1 is essential for the early response to iron deficiency, and induces vegetative expression of late embryogenesis abundant genes. Plant Journal, 2009, 60, 948-961.	5.7	132
30	OsYSL16 plays a role in the allocation of iron. Plant Molecular Biology, 2012, 79, 583-594.	3.9	127
31	Molecular mechanisms of zinc uptake and translocation in rice. Plant and Soil, 2012, 361, 189-201.	3.7	124
32	In vivo evidence that Ids3 from Hordeum vulgare encodes a dioxygenase that converts 2â€²-deoxymugineic acid to mugineic acid in transgenic rice. Planta, 2001, 212, 864-871.	3.2	121
33	Regulating Subcellular Metal Homeostasis: The Key to Crop Improvement. Frontiers in Plant Science, 2016, 7, 1192.	3.6	118
34	The iron-chelate transporter OsYSL9 plays a role in iron distribution in developing rice grains. Plant Molecular Biology, 2017, 95, 375-387.	3.9	112
35	Iron deficiency responses in rice roots. Rice, 2014, 7, 27.	4.0	109
36	In vivo analysis of metal distribution and expression of metal transporters in rice seed during germination process by microarray and X-ray Fluorescence Imaging of Fe, Zn, Mn, and Cu. Plant and Soil, 2009, 325, 39-51.	3.7	103

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37	Iron-biofortification in rice by the introduction of three barley genes participated in mugineic acid biosynthesis with soybean ferritin gene. Frontiers in Plant Science, 2013, 4, 132.	3.6	101
38	Transgenic rice lines that include barley genes have increased tolerance to low iron availability in a calcareous paddy soil. Soil Science and Plant Nutrition, 2008, 54, 77-85.	1.9	96
39	Molecular evidence for phytosiderophoreâ€induced improvement of iron nutrition of peanut intercropped with maize in calcareous soil. Plant, Cell and Environment, 2013, 36, 1888-1902.	5.7	92
40	Iron sensors and signals in response to iron deficiency. Plant Science, 2014, 224, 36-43.	3.6	92
41	The rice transcription factor IDEF1 directly binds to iron and other divalent metals for sensing cellular iron status. Plant Journal, 2012, 69, 81-91.	5.7	91
42	Rice phenolics efflux transporter 2 (PEZ2) plays an important role in solubilizing apoplasmic iron. Soil Science and Plant Nutrition, 2011, 57, 803-812.	1.9	85
43	The Phytosiderophore Efflux Transporter TOM2 Is Involved in Metal Transport in Rice. Journal of Biological Chemistry, 2015, 290, 27688-27699.	3.4	83
44	OsNRAMP5, a major player for constitutive iron and manganese uptake in rice. Plant Signaling and Behavior, 2012, 7, 763-766.	2.4	82
45	Spatial transcriptomes of ironâ€deficient and cadmiumâ€stressed rice. New Phytologist, 2014, 201, 781-794.	7.3	80
46	A Highly Sensitive, Quick and Simple Quantification Method for Nicotianamine and 2â€²-Deoxymugineic Acid from Minimum Samples Using LC/ESI-TOF-MS Achieves Functional Analysis of These Components in Plants. Plant and Cell Physiology, 2009, 50, 1988-1993.	3.1	79
47	Recent insights into iron homeostasis and their application in graminaceous crops. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2010, 86, 900-913.	3.8	75
48	Iron Biofortification of Myanmar Rice. Frontiers in Plant Science, 2013, 4, 158.	3.6	74
49	OsbHLH058 and OsbHLH059 transcription factors positively regulate iron deficiency responses in rice. Plant Molecular Biology, 2019, 101, 471-486.	3.9	71
50	Nicotianamine synthase 2 localizes to the vesicles of ironâ€deficient rice roots, and its mutation in the <scp>YXX</scp>Ï† or <scp>LL</scp> motif causes the disruption of vesicle formation or movement in rice. Plant Journal, 2014, 77, 246-260.	5.7	69
51	Understanding the Complexity of Iron Sensing and Signaling Cascades in Plants. Plant and Cell Physiology, 2019, 60, 1440-1446.	3.1	69
52	AhNRAMP1 iron transporter is involved in iron acquisition in peanut. Journal of Experimental Botany, 2012, 63, 4437-4446.	4.8	68
53	Expression and enzyme activity of glutathione reductase is upregulated by Fe-deficiency in graminaceous plants. Plant Molecular Biology, 2007, 65, 277-284.	3.9	67
54	Characterizing the Crucial Components of Iron Homeostasis in the Maize Mutants ys1 and ys3. PLoS ONE, 2013, 8, e62567.	2.5	65

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55	The expression of iron homeostasis-related genes during rice germination. Plant Molecular Biology, 2007, 64, 35-47.	3.9	62
56	Jasmonate signaling is activated in the very early stages of iron deficiency responses in rice roots. Plant Molecular Biology, 2016, 91, 533-547.	3.9	62
57	Time course analysis of gene expression over 24Âhours in Fe-deficient barley roots. Plant Molecular Biology, 2009, 69, 621-631.	3.9	60
58	The spatial expression and regulation of transcription factors IDEF1 and IDEF2. Annals of Botany, 2010, 105, 1109-1117.	2.9	58
59	Physiological and transcriptomic analysis of responses to different levels of iron excess stress in various rice tissues. Soil Science and Plant Nutrition, 2018, 64, 370-385.	1.9	58
60	Nicotianamine Synthesis by OsNAS3 Is Important for Mitigating Iron Excess Stress in Rice. Frontiers in Plant Science, 2019, 10, 660.	3.6	50
61	Hemerythrin E3 Ubiquitin Ligases as Negative Regulators of Iron Homeostasis in Plants. Frontiers in Plant Science, 2019, 10, 98.	3.6	48
62	52Mn translocation in barley monitored using a positron-emitting tracer imaging system. Soil Science and Plant Nutrition, 2006, 52, 717-725.	1.9	44
63	Deoxymugineic Acid Synthase. Plant Signaling and Behavior, 2006, 1, 290-292.	2.4	44
64	Rice genes involved in phytosiderophore biosynthesis are synchronously regulated during the early stages of iron deficiency in roots. Rice, 2013, 6, 16.	4.0	42
65	Rice nicotianamine synthase localizes to particular vesicles for proper function. Plant Signaling and Behavior, 2014, 9, e28660.	2.4	41
66	Iron deficiency-inducible peptide-coding genes <i>OsIMA1</i> and <i>OsIMA2</i> positively regulate a major pathway of iron uptake and translocation in rice. Journal of Experimental Botany, 2021, 72, 2196-2211.	4.8	41
67	Identification and characterization of the major mitochondrial Fe transporter in rice. Plant Signaling and Behavior, 2011, 6, 1591-1593.	2.4	40
68	Iron deficiency regulated OsOPT7 is essential for iron homeostasis in rice. Plant Molecular Biology, 2015, 88, 165-176.	3.9	39
69	Genetically engineered rice containing larger amounts of nicotianamine to enhance the antihypertensive effect. Plant Biotechnology Journal, 2009, 7, 87-95.	8.3	38
70	Rice HRZ ubiquitin ligases are crucial for the response to excess iron. Physiologia Plantarum, 2018, 163, 282-296.	5.2	35
71	The bHLH protein OsIRO3 is critical for plant survival and iron (Fe) homeostasis in rice (<i>Oryza) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.9	30
72	Combined deficiency of iron and other divalent cations mitigates the symptoms of iron deficiency in tobacco plants. Physiologia Plantarum, 2003, 119, 400-408.	5.2	28

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73	Construction of artificial promoters highly responsive to iron deficiency. Soil Science and Plant Nutrition, 2004, 50, 1167-1175.	1.9	28
74	Development of a mugineic acid family phytosiderophore analog as an iron fertilizer. Nature Communications, 2021, 12, 1558.	12.8	27
75	A new transgenic rice line exhibiting enhanced ferric iron reduction and phytosiderophore production confers tolerance to low iron availability in calcareous soil. PLoS ONE, 2017, 12, e0173441.	2.5	26
76	Generation and Field Trials of Transgenic Rice Tolerant to Iron Deficiency. Rice, 2008, 1, 144-153.	4.0	25
77	The Yellow Stripe-Like (YSL) Gene Functions in Internal Copper Transport in Peanut. Genes, 2018, 9, 635.	2.4	25
78	The role of rice phenolics efflux transporter in solubilizing apoplasmic iron. Plant Signaling and Behavior, 2011, 6, 1624-1626.	2.4	24
79	Expression of peanut Iron Regulated Transporter 1 in tobacco and rice plants confers improved iron nutrition. Plant Physiology and Biochemistry, 2014, 80, 83-89.	5.8	24
80	Intracellular iron sensing by the direct binding of iron to regulators. Frontiers in Plant Science, 2015, 6, 155.	3.6	23
81	Overexpression of barley nicotianamine synthase 1 confers tolerance in the sweet potato to iron deficiency in calcareous soil. Plant and Soil, 2017, 418, 75-88.	3.7	23
82	Regulation of the Iron-Deficiency Responsive Gene, Ids2, of Barley in Tobacco. Plant Biotechnology, 2003, 20, 33-41.	1.0	20
83	The Bowmanâ€“Birk Trypsin Inhibitor IBP1 Interacts with and Prevents Degradation of IDEF1 in Rice. Plant Molecular Biology Reporter, 2014, 32, 841-851.	1.8	19
84	Metabolic Engineering ofSaccharomyces cerevisiaeProducing Nicotianamine: Potential for Industrial Biosynthesis of a Novel Antihypertensive Substrate. Bioscience, Biotechnology and Biochemistry, 2006, 70, 1408-1415.	1.3	18
85	Enhancement of Iron Acquisition in Rice by the Mugineic Acid Synthase Gene With Ferric Iron Reductase Gene and OsIRO2 Confers Tolerance in Submerged and Nonsubmerged Calcareous Soils. Frontiers in Plant Science, 2019, 10, 1179.	3.6	18
86	Synthesis of nicotianamine and deoxymugineic acid is regulated by OsIRO2 in Zn excess rice plants. Soil Science and Plant Nutrition, 2008, 54, 417-423.	1.9	15
87	Roles of subcellular metal homeostasis in crop improvement. Journal of Experimental Botany, 2021, 72, 2083-2098.	4.8	15
88	Development of a novel prediction method of cis-elements to hypothesize collaborative functions of cis-element pairs in iron-deficient rice. Rice, 2013, 6, 22.	4.0	14
89	Defects in the rice aconitase-encoding OsACO1 gene alter iron homeostasis. Plant Molecular Biology, 2020, 104, 629-645.	3.9	13
90	H215O translocation in rice was enhanced by 10 Î¼m5-aminolevulinic acid as monitored by positron emitting tracer imaging system (PETIS). Soil Science and Plant Nutrition, 2004, 50, 1085-1088.	1.9	11

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91	Promoter analysis of iron-deficiency-inducible barley IDS3 gene in Arabidopsis and tobacco plants. Plant Physiology and Biochemistry, 2007, 45, 262-269.	5.8	11
92	Dual regulation of iron deficiency response mediated by the transcription factor IDEF1. Plant Signaling and Behavior, 2010, 5, 157-159.	2.4	11
93	Molecular Analysis of Iron-Deficient Graminaceous Plants. , 2006, , 395-435.		11
94	Regulation of Iron and Zinc Uptake and Translocation in Rice. Biotechnology in Agriculture and Forestry, 2008, , 321-335.	0.2	8
95	Interspecies compatibility of NAS1 gene promoters. Plant Physiology and Biochemistry, 2007, 45, 270-276.	5.8	7
96	Tissue-specific transcriptional profiling of iron-deficient and cadmium-stressed rice using laser capture microdissection. Plant Signaling and Behavior, 2014, 9, e29427.	2.4	7
97	Iron-deficiency response and expression of genes related to iron homeostasis in poplars. Soil Science and Plant Nutrition, 2018, 64, 576-588.	1.9	5
98	Iron Biofortification: The Gateway to Overcoming Hidden Hunger. , 2020, , 149-177.		5
99	The basic leucine zipper transcription factor <scp>OsbZIP83</scp> and the glutaredoxins <scp>OsGRX6</scp> and <scp>OsGRX9</scp> facilitate rice iron utilization under the control of <scp>OsHRZ</scp> ubiquitin ligases. Plant Journal, 2022, , .	5.7	5
100	Comparison of the functions of the barley nicotianamine synthase geneHvNAS1and rice nicotianamine synthase geneOsNAS1promoters in response to iron deficiency in transgenic tobacco. Soil Science and Plant Nutrition, 2009, 55, 277-282.	1.9	2