LukÃ¡Å¡ SpÃ-chal

List of Publications by Year
in descending order

80 papers	3,647 citations	156536 32 h-index	162838 57 g-index
84 all docs	84 docs citations	84 times ranked	3970 citing authors

#	Article	IF	Citations
1	Cytokinin oxidase/dehydrogenase inhibitors: outlook for selectivity and high efficiency. Journal of Experimental Botany, 2022, 73, 4806-4817.	2.4	4
2	Priming with Small Molecule-Based Biostimulants to Improve Abiotic Stress Tolerance in Arabidopsis thaliana. Plants, 2022, 11, 1287.	1.6	5
3	Role of LOC_Os01g68450, Containing DUF2358, in Salt Tolerance Is Mediated via Adaptation of Absorbed Light Energy Dissipation. Plants, 2022, 11, 1233.	1.6	2
4	Presence and future of plant phenotyping approaches in biostimulant research and development. Journal of Experimental Botany, 2022, 73, 5199-5212.	2.4	8
5	Diphenylurea-derived cytokinin oxidase/dehydrogenase inhibitors for biotechnology and agriculture. Journal of Experimental Botany, 2021, 72, 355-370.	2.4	27
6	New Generation of Arabidopsis thaliana Cytokinin Oxidase/Dehydrogenase Inhibitors Affect Shoot/Root Growth and Seed Yield. , 2021, , 293-316.		0
7	Phloem exudate metabolic content reflects the response to waterâ€deficit stress in pea plants (<i>Pisum) Tj ETQq1 1 0.784314 rgBT	2.8	9
8	Seed Priming With Protein Hydrolysates Improves Arabidopsis Growth and Stress Tolerance to Abiotic Stresses. Frontiers in Plant Science, 2021, 12, 626301.	1.7	32
9	The adjuvant activity of two urea derivatives on cytokinins: an example of serendipitous dual effect. Plant Growth Regulation, 2021, 95, 169.	1.8	2
10	Sucrose promotes stem branching through cytokinin. Plant Physiology, 2021, 185, 1708-1721.	2.3	54
11	Cytokinin N-glucosides: Occurrence, Metabolism and Biological Activities in Plants. Biomolecules, 2021, 11, 24.	1.8	21
12	Targeting Cytokinin Homeostasis in Rapid Cycling Brassica rapa with Plant Growth Regulators INCYDE and TD-K. Plants, 2021, 10, 39.	1.6	5
13	New aromatic 6-substituted 2â€²-deoxy-9-(Î²)-d-ribofuranosylpurine derivatives as potential plant growth regulators. Bioorganic and Medicinal Chemistry, 2020, 28, 115230.	1.4	8
14	Arabidopsis Response to Inhibitor of Cytokinin Degradation INCYDE: Modulations of Cytokinin Signaling and Plant Proteome. Plants, 2020, 9, 1563.	1.6	15
15	Cytokinin and Ethylene Cell Signaling Pathways from Prokaryotes to Eukaryotes. Cells, 2020, 9, 2526.	1.8	14
16	Drought-Tolerance Gene Identification Using Genome Comparison and Co-Expression Network Analysis of Chromosome Substitution Lines in Rice. Genes, 2020, 11, 1197.	1.0	8
17	Cytokinin fluoroprobe reveals multiple sites of cytokinin perception at plasma membrane and endoplasmic reticulum. Nature Communications, 2020, 11, 4285.	5.8	64
18	Applications of Cytokinins in Horticultural Fruit Crops: Trends and Future Prospects. Biomolecules, 2020, 10, 1222.	1.8	21

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19	Hormopriming to Mitigate Abiotic Stress Effects: A Case Study of N9-Substituted Cytokinin Derivatives With a Fluorinated Carbohydrate Moiety. Frontiers in Plant Science, 2020, 11, 599228.	1.7	18
20	Volatiles from the fungal phytopathogen Penicillium aurantiogriseum modulate root metabolism and architecture through proteome resetting. Plant, Cell and Environment, 2020, 43, 2551-2570.	2.8	19
21	Heat Acclimation and Inhibition of Cytokinin Degradation Positively Affect Heat Stress Tolerance of Arabidopsis. Frontiers in Plant Science, 2020, 11, 87.	1.7	60
22	Bayesian approach for analysis of time-to-event data in plant biology. Plant Methods, 2020, 16, 14.	1.9	10
23	New hybrid type strigolactone mimics derived from plant growth regulator auxin. New Biotechnology, 2019, 48, 76-82.	2.4	12
24	Phytohormones and polyamines regulate plant stress responses by altering GABA pathway. New Biotechnology, 2019, 48, 53-65.	2.4	188
25	Hybridâ€type strigolactone analogues derived from auxins. Pest Management Science, 2019, 75, 3113-3121.	1.7	9
26	A Novel Image-Based Screening Method to Study Water-Deficit Response and Recovery of Barley Populations Using Canopy Dynamics Phenotyping and Simple Metabolite Profiling. Frontiers in Plant Science, 2019, 10, 1252.	1.7	16
27	Root ABA and H⁺â€ATPase are key players in the root and shoot growthâ€promoting action of humic acids. Plant Direct, 2019, 3, e00175.	0.8	32
28	Plant responses to fungal volatiles involve global posttranslational thiol redox proteome changes that affect photosynthesis. Plant, Cell and Environment, 2019, 42, 2627-2644.	2.8	26
29	A Stimulatory Role for Cytokinin in the Arbuscular Mycorrhizal Symbiosis of Pea. Frontiers in Plant Science, 2019, 10, 262.	1.7	18
30	Analysis of Cold-Developed vs. Cold-Acclimated Leaves Reveals Various Strategies of Cold Acclimation of Field Pea Cultivars. Remote Sensing, 2019, 11, 2964.	1.8	3
31	Triazolide strigolactone mimics as potent selective germinators of parasitic plant Phelipanche ramosa. Pest Management Science, 2019, 75, 2049-2056.	1.7	9
32	Design, synthesis and perception of fluorescently labeled isoprenoid cytokinins. Phytochemistry, 2018, 150, 1-11.	1.4	7
33	Asparagine and sugars are both required to sustain secondary axis elongation after bud outgrowth in Rosa hybrida. Journal of Plant Physiology, 2018, 222, 17-27.	1.6	19
34	New cytokinin derivatives possess UVA and UVB photoprotective effect on human skin cells and prevent oxidative stress. European Journal of Medicinal Chemistry, 2018, 150, 946-957.	2.6	21
35	Resorcinol-Type Strigolactone Mimics as Potent Germinators of the Parasitic PlantsStriga hermonthicaandPhelipanche ramosa. Journal of Natural Products, 2018, 81, 2321-2328.	1.5	7
36	Characterization of Biostimulant Mode of Action Using Novel Multi-Trait High-Throughput Screening of Arabidopsis Germination and Rosette Growth. Frontiers in Plant Science, 2018, 9, 1327.	1.7	72

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37	High-Throughput Plant Phenotyping for Developing Novel Biostimulants: From Lab to Field or From Field to Lab?. Frontiers in Plant Science, 2018, 9, 1197.	1.7	193
38	New Urea Derivatives Are Effective Anti-senescence Compounds Acting Most Likely via a Cytokinin-Independent Mechanism. Frontiers in Plant Science, 2018, 9, 1225.	1.7	9
39	Plastidial Phosphoglucose Isomerase Is an Important Determinant of Seed Yield through Its Involvement in Gibberellin-Mediated Reproductive Development and Storage Reserve Biosynthesis in Arabidopsis. Plant Cell, 2018, 30, 2082-2098.	3.1	15
40	Preparation, characterization and biological activity of C8-substituted cytokinins. Phytochemistry, 2017, 135, 115-127.	1.4	7
41	Cytokinin-Auxin Crosstalk in the Gynoecial Primordium Ensures Correct Domain Patterning. Plant Physiology, 2017, 175, 1144-1157.	2.3	52
42	High Throughput Screening Method for Identifying Potential Agonists and Antagonists of Arabidopsis thaliana Cytokinin Receptor CRE1/AHK4. Frontiers in Plant Science, 2017, 8, 947.	1.7	3
43	An Automated Method for High-Throughput Screening of Arabidopsis Rosette Growth in Multi-Well Plates and Its Validation in Stress Conditions. Frontiers in Plant Science, 2017, 8, 1702.	1.7	64
44	Haustorium initiation in the obligate parasitic plant Phelipanche ramosa involves a host-exudated cytokinin signal. Journal of Experimental Botany, 2017, 68, 5539-5552.	2.4	40
45	Cytokinins influence root gravitropism via differential regulation of auxin transporter expression and localization in Arabidopsis. New Phytologist, 2016, 212, 497-509.	3.5	54
46	Volatile compounds emitted by diverse phytopathogenic microorganisms promote plant growth and flowering through cytokinin action. Plant, Cell and Environment, 2016, 39, 2592-2608.	2.8	93
47	Cytokinin, auxin and physiological polarity in the aquatic carnivorous plantsAldrovanda vesiculosaandUtricularia australis. Annals of Botany, 2016, 117, 1037-1044.	1.4	10
48	Arabidopsis Responds to Alternaria alternata Volatiles by Triggering Plastid Phosphoglucose Isomerase-Independent Mechanisms. Plant Physiology, 2016, 172, 1989-2001.	2.3	58
49	Novel thidiazuron-derived inhibitors of cytokinin oxidase/dehydrogenase. Plant Molecular Biology, 2016, 92, 235-248.	2.0	43
50	Use of cytokinins as agrochemicals. Bioorganic and Medicinal Chemistry, 2016, 24, 484-492.	1.4	52
51	C2-substituted aromatic cytokinin sugar conjugates delay the onset of senescence by maintaining the activity of the photosynthetic apparatus. Phytochemistry, 2016, 122, 22-33.	1.4	20
52	Plastidic Phosphoglucose Isomerase Is an Important Determinant of Starch Accumulation in Mesophyll Cells, Growth, Photosynthetic Capacity, and Biosynthesis of Plastidic Cytokinins in Arabidopsis. PLoS ONE, 2015, 10, e0119641.	1.1	30
53	Silicon induces resistance to the brown spot fungus Cochliobolus miyabeanus by preventing the pathogen from hijacking the rice ethylene pathway. New Phytologist, 2015, 206, 761-773.	3.5	132
54	Automated integrative high-throughput phenotyping of plant shoots: a case study of the cold-tolerance of pea (Pisum sativum L.). Plant Methods, 2015, 11, 20.	1.9	85

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55	Automated phenotyping of plant shoots using imaging methods for analysis of plant stress responses â€“ a review. Plant Methods, 2015, 11, 29.	1.9	214
56	Dissecting the role of two cytokinin analogues (INCYDE and PI-55) on in vitro organogenesis, phytohormone accumulation, phytochemical content and antioxidant activity. Plant Science, 2015, 238, 81-94.	1.7	19
57	The Biotechnological Potential of Cytokinin Status Manipulation. Plant Cell Monographs, 2014, , 103-130.	0.4	2
58	A novel inhibitor of cytokinin degradation (INCYDE) influences the biochemical parameters and photosynthetic apparatus in NaCl-stressed tomato plants. Planta, 2014, 240, 877-889.	1.6	30
59	Seedlings of medicinal plantsÂtreated with either a cytokinin antagonist (PI-55) or an inhibitor of cytokinin degradation (INCYDE) are protected against the negative effects of cadmium. Plant Growth Regulation, 2013, 71, 137-145.	1.8	44
60	Phenyl-Adenine, Identified in aLIGHT-DEPENDENT SHORT HYPOCOTYLS4-Assisted Chemical Screen, Is a Potent Compound for Shoot Regeneration through the Inhibition of CYTOKININ OXIDASE/DEHYDROGENASE Activity Â Â. Plant Physiology, 2013, 161, 1229-1241.	2.3	26
61	Stabilization of Cytokinin Levels Enhances Arabidopsis Resistance Against Verticillium longisporum. Molecular Plant-Microbe Interactions, 2013, 26, 850-860.	1.4	66
62	Seed development, seed germination and seedling growth in the R50 (sym16) pea mutant are not directly linked to altered cytokinin homeostasis. Physiologia Plantarum, 2012, 145, 341-359.	2.6	8
63	Cytokinins - recent news and views of evolutionally old molecules. Functional Plant Biology, 2012, 39, 267.	1.1	155
64	Analysis of cytokinin nucleotides by capillary zone electrophoresis with diode array and mass spectrometric detection in a recombinant enzyme in vitro reaction. Analytica Chimica Acta, 2012, 751, 176-181.	2.6	7
65	Novel Cytokinin Derivatives Do Not Show Negative Effects on Root Growth and Proliferation in Submicromolar Range. PLoS ONE, 2012, 7, e39293.	1.1	60
66	Distribution, biological activities, metabolism, and the conceivable function of cis-zeatin-type cytokinins in plants. Journal of Experimental Botany, 2011, 62, 2827-2840.	2.4	269
67	N9-Substituted N6-[(3-methylbut-2-en-1-yl)amino]purine derivatives and their biological activity in selected cytokinin bioassays. Bioorganic and Medicinal Chemistry, 2011, 19, 7244-7251.	1.4	23
68	Bacterial Assay to Study Plant Sensor Histidine Kinases. Methods in Molecular Biology, 2011, 779, 139-147.	0.4	6
69	N9-substituted derivatives of kinetin: Effective anti-senescence agents. Phytochemistry, 2011, 72, 821-831.	1.4	39
70	Cytokinin receptor antagonists derived from 6-benzylaminopurine. Phytochemistry, 2010, 71, 823-830.	1.4	50
71	Anticancer activity of natural cytokinins: A structureâ€“activity relationship study. Phytochemistry, 2010, 71, 1350-1359.	1.4	77
72	Phenyl- and benzylurea cytokinins as competitive inhibitors of cytokinin oxidase/dehydrogenase: A structural study. Biochimie, 2010, 92, 1052-1062.	1.3	53

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73	Nebularine Affects Plant Growth and Development but does not Interfere with Cytokinin Signaling. Journal of Plant Growth Regulation, 2009, 28, 321-330.	2.8	1
74	The purine derivative Plâ€55 blocks cytokinin action via receptor inhibition. FEBS Journal, 2009, 276, 244-253.	2.2	64
75	Synthesis, characterization and biological activity of ring-substituted 6-benzylamino-9-tetrahydropyran-2-yl and 9-tetrahydrofuran-2-ylpurine derivatives. Bioorganic and Medicinal Chemistry, 2009, 17, 1938-1947.	1.4	58
76	Novel potent inhibitors of A. thaliana cytokinin oxidase/dehydrogenase. Bioorganic and Medicinal Chemistry, 2008, 16, 9268-9275.	1.4	74
77	Classical Anticytokinins Do Not Interact with Cytokinin Receptors but Inhibit Cyclin-dependent Kinases. Journal of Biological Chemistry, 2007, 282, 14356-14363.	1.6	20
78	Preparation and biological activity of 6-benzylaminopurine derivatives in plants and human cancer cells. Bioorganic and Medicinal Chemistry, 2006, 14, 875-884.	1.4	120
79	A live cell hormone-binding assay on transgenic bacteria expressing a eukaryotic receptor protein. Analytical Biochemistry, 2005, 347, 129-134.	1.1	78
80	Two Cytokinin Receptors of Arabidopsis thaliana, CRE1/AHK4 and AHK3, Differ in their Ligand Specificity in a Bacterial Assay. Plant and Cell Physiology, 2004, 45, 1299-1305.	1.5	262