

Maria Hrmova

List of Publications by Year in descending order

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113
papers

5,620
citations

66343

42
h-index

91884

69
g-index

118
all docs

118
docs citations

118
times ranked

5508
citing authors

#	ARTICLE	IF	CITATIONS
1	Cellulose Synthase-Like CslF Genes Mediate the Synthesis of Cell Wall (1,3;1,4)- β -D-Glucans. <i>Science</i> , 2006, 311, 1940-1942.	12.6	422
2	Three-dimensional structure of a barley β -D-glucan exohydrolase, a family 3 glycosyl hydrolase. <i>Structure</i> , 1999, 7, 179-190.	3.3	219
3	A Two-Stage Model of Na ⁺ Exclusion in Rice Explained by 3D Modeling of HKT Transporters and Alternative Splicing. <i>PLoS ONE</i> , 2012, 7, e39865.	2.5	193
4	Plant cell wall biosynthesis: genetic, biochemical and functional genomics approaches to the identification of key genes. <i>Plant Biotechnology Journal</i> , 2006, 4, 145-167.	8.3	183
5	Boron Toxicity Tolerance in Barley through Reduced Expression of the Multifunctional Aquaporin HvNIP2;1 Å. <i>Plant Physiology</i> , 2010, 153, 1706-1715.	4.8	159
6	Bifunctional Family 3 Glycoside Hydrolases from Barley with β -L-Arabinofuranosidase and β -D-Xylosidase Activity. <i>Journal of Biological Chemistry</i> , 2003, 278, 5377-5387.	3.4	156
7	Modulation of plant growth by HD-Zip class I and II transcription factors in response to environmental stimuli. <i>New Phytologist</i> , 2011, 190, 823-837.	7.3	139
8	Barley β -D-Glucan Exohydrolases with β -D-Glucosidase Activity. <i>Journal of Biological Chemistry</i> , 1996, 271, 5277-5286.	3.4	137
9	A Barley Xyloglucan Xyloglucosyl Transferase Covalently Links Xyloglucan, Cellulosic Substrates, and (1,3;1,4)- β -D-Glucans. <i>Journal of Biological Chemistry</i> , 2007, 282, 12951-12962.	3.4	135
10	Basic leucine zipper (bZIP) transcription factors involved in abiotic stresses: A molecular model of a wheat bZIP factor and implications of its structure in function. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2016, 1860, 46-56.	2.4	122
11	Binding interactions between barley thaumatin-like proteins and (1,3)- β -D-glucans. <i>FEBS Journal</i> , 2001, 268, 4190-4199.	0.2	113
12	Structure-function relationships of β -D-glucan endo- and exohydrolases from higher plants. , 2001, 47, 73-91.		110
13	Comparative modeling of the three-dimensional structures of family 3 glycoside hydrolases. <i>Proteins: Structure, Function and Bioinformatics</i> , 2000, 41, 257-269.	2.6	109
14	Molecular modeling of family GH16 glycoside hydrolases: Potential roles for xyloglucan transglucosylases/hydrolases in cell wall modification in the poaceae. <i>Protein Science</i> , 2009, 13, 3200-3213.	7.6	104
15	Identification of a Stelar-Localized Transport Protein That Facilitates Root-to-Shoot Transfer of Chloride in Arabidopsis. <i>Plant Physiology</i> , 2016, 170, 1014-1029.	4.8	100
16	Specificity of cellulase and β -xylanase induction in <i>Trichoderma reesei</i> QM 9414. <i>Archives of Microbiology</i> , 1986, 144, 307-311.	2.2	95
17	Plant High-Affinity Potassium (HKT) Transporters Involved in Salinity Tolerance: Structural Insights to Probe Differences in Ion Selectivity. <i>International Journal of Molecular Sciences</i> , 2013, 14, 7660-7680.	4.1	95
18	Structural Basis for Broad Substrate Specificity in Higher Plant β -D-Glucan Glucohydrolases. <i>Plant Cell</i> , 2002, 14, 1033-1052.	6.6	89

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19	Substrate Binding and Catalytic Mechanism of a Barley β -D-Glucosidase/(1,4)- β -D-Glucan Exohydrolase. <i>Journal of Biological Chemistry</i> , 1998, 273, 11134-11143.	3.4	86
20	Identification and characterization of wheat drought-responsive MYB transcription factors involved in the regulation of cuticle biosynthesis. <i>Journal of Experimental Botany</i> , 2016, 67, 5363-5380.	4.8	82
21	Transcriptional regulation of cuticle biosynthesis. <i>Biotechnology Advances</i> , 2014, 32, 526-540.	11.7	80
22	Mutated Barley (1,3)- β -D-Glucan Endohydrolases Synthesize Crystalline (1,3)- β -D-Glucans. <i>Journal of Biological Chemistry</i> , 2002, 277, 30102-30111.	3.4	79
23	Barley arabinoxylan arabinofuranohydrolases: purification, characterization and determination of primary structures from cDNA clones. <i>Biochemical Journal</i> , 2001, 356, 181-189.	3.7	75
24	Catalytic Mechanisms and Reaction Intermediates along the Hydrolytic Pathway of a Plant β -D-glucan Glucohydrolase. <i>Structure</i> , 2001, 9, 1005-1016.	3.3	73
25	Members of a New Group of Chitinase-Like Genes are Expressed Preferentially in Cotton Cells with Secondary Walls. <i>Plant Molecular Biology</i> , 2004, 54, 353-372.	3.9	71
26	A Single Limit Dextrinase Gene Is Expressed Both in the Developing Endosperm and in Germinated Grains of Barley1. <i>Plant Physiology</i> , 1999, 119, 859-872.	4.8	70
27	Role of Homeodomain Leucine Zipper (HD-Zip) IV Transcription Factors in Plant Development and Plant Protection from Deleterious Environmental Factors. <i>International Journal of Molecular Sciences</i> , 2013, 14, 8122-8147.	4.1	70
28	Plant Transcription Factors Involved in Drought and Associated Stresses. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5662.	4.1	70
29	Biochemical evidence linking a putative callose synthase gene with (1 \rightarrow 3)- β -D-glucan biosynthesis in barley. <i>Plant Molecular Biology</i> , 2003, 53, 213-225.	3.9	68
30	Cellulose- and xylan-degrading enzymes of <i>Aspergillus terreus</i> and <i>Aspergillus niger</i> . <i>Enzyme and Microbial Technology</i> , 1989, 11, 610-616.	3.2	66
31	Induction of cellulose- and xylan-degrading enzyme complex in the yeast <i>Trichosporon cutaneum</i> . <i>Archives of Microbiology</i> , 1984, 138, 371-376.	2.2	63
32	DREB/CBF expression in wheat and barley using the stress-inducible promoters of <i>HD-Zip I</i> genes: impact on plant development, stress tolerance and yield. <i>Plant Biotechnology Journal</i> , 2020, 18, 829-844.	8.3	61
33	Barley arabinoxylan arabinofuranohydrolases: purification, characterization and determination of primary structures from cDNA clones. <i>Biochemical Journal</i> , 2001, 356, 181.	3.7	59
34	Cell-free protein synthesis of membrane (1,3)- β -D-glucan (curdlan) synthase: Co-translational insertion in liposomes and reconstitution in nanodiscs. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2013, 1828, 743-757.	2.6	58
35	Constitutive overexpression of the <i>TaNf-YB4</i> gene in transgenic wheat significantly improves grain yield. <i>Journal of Experimental Botany</i> , 2015, 66, 6635-6650.	4.8	56
36	Sexual and Apomictic Seed Formation in <i>Hieracium</i> Requires the Plant Polycomb-Group Gene FERTILIZATION INDEPENDENT ENDOSPERM. <i>Plant Cell</i> , 2008, 20, 2372-2386.	6.6	53

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37	Rice family GH1 glycoside hydrolases with β -D-glucosidase and β -D-mannosidase activities. Archives of Biochemistry and Biophysics, 2009, 491, 85-95.	3.0	52
38	Overexpression of the class I homeodomain transcription factor TaHDZ1 increases drought and frost tolerance in transgenic wheat. Plant Biotechnology Journal, 2018, 16, 1227-1240.	8.3	52
39	Barley β -D-glucan exohydrolases. Substrate specificity and kinetic properties. Carbohydrate Research, 1997, 305, 209-221.	2.3	50
40	Overexpression of the TaSHN1 transcription factor in bread wheat leads to leaf surface modifications, improved drought tolerance, and no yield penalty under controlled growth conditions. Plant, Cell and Environment, 2018, 41, 2549-2566.	5.7	50
41	Defensin promoters as potential tools for engineering disease resistance in cereal grains. Plant Biotechnology Journal, 2010, 8, 47-64.	8.3	47
42	Gene expression patterns and catalytic properties of UDP-D-glucose 4-epimerases from barley (<i>Hordeum vulgare</i> L.). Biochemical Journal, 2006, 394, 115-124.	3.7	46
43	Hydrolysis of (1,4)- β -D-mannans in barley (<i>Hordeum vulgare</i> L.) is mediated by the concerted action of (1,4)- β -D-mannan endohydrolase and β -D-mannosidase. Biochemical Journal, 2006, 399, 77-90.	3.7	46
44	Characterization of the wheat endosperm transfer cell-specific protein TaPR60. Plant Molecular Biology, 2009, 71, 81-98.	3.9	46
45	Structural variations in wheat HKT1;5 underpin differences in Na ⁺ transport capacity. Cellular and Molecular Life Sciences, 2018, 75, 1133-1144.	5.4	45
46	Polysaccharide hydrolases in germinated barley and their role in the depolymerization of plant and fungal cell walls. International Journal of Biological Macromolecules, 1997, 21, 67-72.	7.5	43
47	Structural Rationale for Low-Nanomolar Binding of Transition State Mimics to a Family GH3 β -D-Glucan Glucohydrolase from Barley. Biochemistry, 2005, 44, 16529-16539.	2.5	42
48	Substrate specificity and catalytic mechanism of a xyloglucan xyloglucosyl transferase HvXET6 from barley (<i>Hordeum vulgare</i> L.). FEBS Journal, 2009, 276, 437-456.	4.7	38
49	Hyphal cell walls from the plant pathogen <i>Rhynchosporium secalis</i> contain (1,3/1,6)- β -D-glucans, galactose and rhamnomannans, (1,3;1,4)- β -D-glucans and chitin. FEBS Journal, 2009, 276, 3698-3709.		38
50	Subsite Affinities and Disposition of Catalytic Amino Acids in the Substrate-binding Region of Barley 1,3- β -Glucanases. IMPLICATIONS IN PLANT-PATHOGEN INTERACTIONS. Journal of Biological Chemistry, 1995, 270, 14556-14563.	3.4	37
51	Polysaccharide microarrays for high-throughput screening of transglycosylase activities in plant extracts. Glycoconjugate Journal, 2010, 27, 79-87.	2.7	37
52	Three-dimensional Structure of the Barley β -D-Glucan Glucohydrolase in Complex with a Transition State Mimic. Journal of Biological Chemistry, 2004, 279, 4970-4980.	3.4	35
53	Reconstitution of cyanogenesis in barley (<i>Hordeum vulgare</i> L.) and its implications for resistance against the barley powdery mildew fungus. Planta, 2006, 223, 1010-1023.	3.2	34
54	Complex Regulation by Apetala2 Domain-Containing Transcription Factors Revealed through Analysis of the Stress-Responsive TdCor410b Promoter from Durum Wheat. PLoS ONE, 2013, 8, e58713.	2.5	34

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55	Change of function of the wheat stress-responsive transcriptional repressor <i>TaRAP2.1L</i> by repressor motif modification. <i>Plant Biotechnology Journal</i> , 2016, 14, 820-832.	8.3	32
56	Molecular interactions of the β^3 -clade homeodomain-leucine zipper class I transcription factors during the wheat response to water deficit. <i>Plant Molecular Biology</i> , 2016, 90, 435-452.	3.9	31
57	Dissecting the catalytic mechanism of a plant β^2 -d-glucan glucohydrolase through structural biology using inhibitors and substrate analogues. <i>Carbohydrate Research</i> , 2007, 342, 1613-1623.	2.3	29
58	A Barley Efflux Transporter Operates in a Na ⁺ -Dependent Manner, as Revealed by a Multidisciplinary Platform. <i>Plant Cell</i> , 2016, 28, 202-218.	6.6	29
59	Plant Xyloglucan Xyloglucosyl Transferases and the Cell Wall Structure: Subtle but Significant. <i>Molecules</i> , 2020, 25, 5619.	3.8	28
60	Synthesis of Complex Oligosaccharides by Using a Mutated (1,3)-D-Glucan Endohydrolase from Barley. <i>Chemistry - A European Journal</i> , 2003, 9, 2603-2610.	3.3	26
61	The homeodomain transcription factor <i>Ta HDZ1</i> from wheat regulates frost tolerance, flowering time and spike development in transgenic barley. <i>New Phytologist</i> , 2016, 211, 671-687.	7.3	26
62	Purification and characterization of a (1 \rightarrow 3)- β^2 -d-glucan endohydrolase from rice (<i>Oryza sativa</i>) bran. <i>Carbohydrate Research</i> , 1997, 297, 365-374.	2.3	25
63	Close allies in membrane protein research: Cell-free synthesis and nanotechnology. <i>Molecular Membrane Biology</i> , 2013, 30, 229-245.	2.0	25
64	Cell-Free Synthesis of a Functional Membrane Transporter into a Tethered Bilayer Lipid Membrane. <i>Langmuir</i> , 2016, 32, 2445-2449.	3.5	25
65	Developmentally regulated <i>HEART STOPPER</i> , a mitochondrially targeted L18 ribosomal protein gene, is required for cell division, differentiation, and seed development in <i>Arabidopsis</i> . <i>Journal of Experimental Botany</i> , 2015, 66, 5867-5880.	4.8	24
66	(1 \rightarrow 3)- β^2 -Glucan synthesis of <i>Neurospora crassa</i> . <i>Current Microbiology</i> , 1989, 19, 153-161.	2.2	23
67	1,3- β^2 -d-Glucan synthase of <i>Neurospora crassa</i> : Partial purification and characterization of solubilized enzyme activity. <i>Experimental Mycology</i> , 1989, 13, 129-139.	1.6	23
68	The wheat <i>TabZIP2</i> transcription factor is activated by the nutrient starvation-responsive <i>SnRK3/CIPK</i> protein kinase. <i>Plant Molecular Biology</i> , 2018, 96, 543-561.	3.9	23
69	A Single Glycosidase Harnesses Different Pyranoside Ring Transition State Conformations for Hydrolysis of Mannosides and Glucosides. <i>ACS Catalysis</i> , 2015, 5, 6041-6051.	11.2	22
70	Plant transporters involved in combating boron toxicity: beyond 3D structures. <i>Biochemical Society Transactions</i> , 2020, 48, 1683-1696.	3.4	22
71	Plant Enzyme Structure. Explaining Substrate Specificity and the Evolution of Function. <i>Plant Physiology</i> , 2001, 125, 54-57.	4.8	21
72	Barley sodium content is regulated by natural variants of the Na ⁺ transporter <i>HvHKT1;5</i> . <i>Communications Biology</i> , 2020, 3, 258.	4.4	21

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73	Structural Basis of the Permeation Function of Plant Aquaporins. Signaling and Communication in Plants, 2017, , 1-28.	0.7	20
74	Discovery of processive catalysis by an exo-hydrolase with a pocket-shaped active site. Nature Communications, 2019, 10, 2222.	12.8	20
75	Xyloglucan xyloglucosyl transferases from barley (<i>Hordeum vulgare</i> L.) bind oligomeric and polymeric xyloglucan molecules in their acceptor binding sites. Biochimica Et Biophysica Acta - General Subjects, 2010, 1800, 674-684.	2.4	19
76	Endosperm transfer cell-specific genes and proteins: structure, function and applications in biotechnology. Frontiers in Plant Science, 2014, 5, 64.	3.6	19
77	A single nucleotide substitution in <i>TaHKT1</i> ; <i>5â€</i> controls shoot Na ⁺ accumulation in bread wheat. Plant, Cell and Environment, 2020, 43, 2158-2171.	5.7	18
78	Broad Specific Xyloglucan:Xyloglucosyl Transferases Are Formidable Players in the Re-Modelling of Plant Cell Wall Structures. International Journal of Molecular Sciences, 2022, 23, 1656.	4.1	18
79	Heterologous and Cell-Free Protein Expression Systems. Methods in Molecular Biology, 2009, 513, 175-198.	0.9	17
80	Characterization of the wheat gene encoding a grain-specific lipid transfer protein TdPR61, and promoter activity in wheat, barley and rice. Journal of Experimental Botany, 2012, 63, 2025-2040.	4.8	17
81	Another building block in the plant cell wall: Barley xyloglucan xyloglucosyl transferases link covalently xyloglucan and anionic oligosaccharides derived from pectin. Plant Journal, 2020, 104, 752-767.	5.7	17
82	Potassium Alginate Oligosaccharides Alter Gut Microbiota, and Have Potential to Prevent the Development of Hypertension and Heart Failure in Spontaneously Hypertensive Rats. International Journal of Molecular Sciences, 2021, 22, 9823.	4.1	17
83	Heterologous expression of diverse barley XTH genes in the yeast <i>Pichia pastoris</i> . Plant Biotechnology, 2010, 27, 251-258.	1.0	16
84	Wheat drought-responsive WXPL transcription factors regulate cuticle biosynthesis genes. Plant Molecular Biology, 2017, 94, 15-32.	3.9	16
85	Engineering the acceptor substrate specificity in the xyloglucan endotransglycosylase TmXET6.3 from nasturtium seeds (<i>Tropaeolum majus</i> L.). Plant Molecular Biology, 2019, 100, 181-197.	3.9	16
86	Immunomodulator polysaccharides: Chemistry, disposition and metabolism. Biopharmaceutics and Drug Disposition, 1993, 14, 187-198.	1.9	15
87	Crystallization and preliminary X-ray analysis of Î²-glucan exohydrolase isoenzyme ExoI from barley (<i>Hordeum vulgare</i>). Acta Crystallographica Section D: Biological Crystallography, 1998, 54, 687-689.	2.5	15
88	The Genetics, Transcriptional Profiles, and Catalytic Properties of UDP- <i>1±</i> -Xylose 4-Epimerases from Barley Å. Plant Physiology, 2010, 153, 555-568.	4.8	15
89	Binding of Î²-Glucosides and Î²-Mannosides by Rice and Barley Î²-Glycosidases with Distinct Substrate Specificities. Biochemistry, 2010, 49, 8779-8793.	2.5	15
90	Î²(1-3)Glucan synthase of <i>Neurospora crassa</i> : Solubilization and partial characterization. Experimental Mycology, 1988, 12, 141-150.	1.6	14

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91	Regulation of genes encoding β -d-glucan glucohydrolases in barley (<i>Hordeum vulgare</i>). <i>Physiologia Plantarum</i> , 2001, 113, 108-120.	5.2	14
92	Plants fighting back: to transport or not to transport, this is a structural question. <i>Current Opinion in Plant Biology</i> , 2018, 46, 68-76.	7.1	14
93	Functional Genomics and Structural Biology in the Definition of Gene Function. <i>Methods in Molecular Biology</i> , 2009, 513, 199-227.	0.9	13
94	Structural analysis and insights into the glycon specificity of the rice GH1 Os7BGlu26 β -D-mannosidase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2013, 69, 2124-2135.	2.5	11
95	Enhancing Abiotic Stress Tolerance in Plants by Modulating Properties of Stress Responsive Transcription Factors. , 2014, , 291-316.		11
96	High-yield production, refolding and a molecular modelling of the catalytic module of (1,3)- β -d-glucan (curdlan) synthase from <i>Agrobacterium</i> sp.. <i>Glycoconjugate Journal</i> , 2010, 27, 461-476.	2.7	10
97	A Chemoenzymatic Route to Conjugatable β (1 \rightarrow 3)-Glucan Oligosaccharides. <i>Australian Journal of Chemistry</i> , 2009, 62, 575.	0.9	9
98	High-level expression of barley β -d-glucan exohydrolase HvExol from a codon-optimized cDNA in <i>Pichia pastoris</i> . <i>Protein Expression and Purification</i> , 2010, 73, 90-98.	1.3	9
99	The Synthesis of 3-O-(β -D-Glucopyranosyl)- and 3-O-(β -Laminaribiosyl)-isofagomines, Potent Inhibitors of a 1,3- β -D-Glucan endo-Hydrolase. <i>Australian Journal of Chemistry</i> , 2004, 57, 187.	0.9	8
100	Variation among S-locus haplotypes and among stylar RNases in almond. <i>Scientific Reports</i> , 2020, 10, 583.	3.3	8
101	Barley xyloglucan xyloglucosyl transferases bind xyloglucan-derived oligosaccharides in their acceptor-binding regions in multiple conformational states. <i>Archives of Biochemistry and Biophysics</i> , 2010, 496, 61-68.	3.0	7
102	Plant and Microbial Enzymes Involved in the Depolymerization of (1,3)- β -d-Glucans and Related Polysaccharides. , 2009, , 119-170.		6
103	Expression patterns and protein structure of a lipid transfer protein END1 from <i>Arabidopsis</i> . <i>Planta</i> , 2014, 240, 1319-1334.	3.2	6
104	Wheat wounding-responsive HD-Zip IV transcription factor GL7 is predominantly expressed in grain and activates genes encoding defensins. <i>Plant Molecular Biology</i> , 2019, 101, 41-61.	3.9	6
105	High affinity Na ⁺ transport by wheat HKT1;5 is blocked by K ⁺ . <i>Plant Direct</i> , 2020, 4, e00275.	1.9	6
106	Crystallisation of Wild-Type and Variant Forms of a Recombinant Plant Enzyme β -D-Glucan Glucohydrolase from Barley (<i>Hordeum vulgare</i> L.) and Preliminary X-ray Analysis. <i>International Journal of Molecular Sciences</i> , 2010, 11, 2759-2769.	4.1	5
107	Molecular modeling of S-RNases involved in almond self-incompatibility. <i>Frontiers in Plant Science</i> , 2012, 3, 139.	3.6	5
108	A single residue deletion in the barley HKT1;5 P189 variant restores plasma membrane localisation but not Na ⁺ conductance. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2021, 1863, 183669.	2.6	5

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109	Protoplast formation of <i>Neurospora crassa</i> by an inducible enzyme system of <i>Arthrobacter</i> GJM-1. <i>Current Microbiology</i> , 1987, 16, 33-38.	2.2	4
110	A barley xyloglucan xyloglucosyl transferase covalently links xyloglucan, cellulosic substrates, and (1,3;1,4)- β -d-glucans. VOLUME 282 (2007) PAGES 12951-12962. <i>Journal of Biological Chemistry</i> , 2008, 283, 27344.	3.4	4
111	Structural characterization of the Pet c 1.0201 PR-10 protein isolated from roots of <i>Petroselinum crispum</i> (Mill.) Fuss. <i>Phytochemistry</i> , 2020, 175, 112368.	2.9	3
112	Alluminating structure key to stress tolerance. <i>Cell Research</i> , 2022, 32, 5-6.	12.0	1
113	A Glimpse at Regulation of Nitrogen Homeostasis. <i>Structure</i> , 2010, 18, 1395-1397.	3.3	0