Lukas Mach

List of Publications by Year
in descending order

67 papers	3,701 citations	136950 32 h-index	138484 58 g-index
71 all docs	71 docs citations	71 times ranked	4052 citing authors

#	Article	IF	Citations
1	Generation of glycoâ€engineered <i>Nicotiana benthamiana</i> for the production of monoclonal antibodies with a homogeneous humanâ€like <i>N</i>â€glycan structure. Plant Biotechnology Journal, 2008, 6, 392-402.	8.3	458
2	Mass + Retention Time = Structure:Â A Strategy for the Analysis ofN-Glycans by Carbon LC-ESI-MS and Its Application to FibrinN-Glycans. Analytical Chemistry, 2007, 79, 5051-5057.	6.5	193
3	Class I Î±-Mannosidases Are Required for N-Glycan Processing and Root Development in<i>Arabidopsis thaliana</i>Â Â Â. Plant Cell, 2010, 21, 3850-3867.	6.6	172
4	A Unique Î²1,3-Galactosyltransferase Is Indispensable for the Biosynthesis of <i>N</i>-Glycans Containing Lewis a Structures in <i>Arabidopsis thaliana</i>. Plant Cell, 2007, 19, 2278-2292.	6.6	157
5	Improved Virus Neutralization by Plant-produced Anti-HIV Antibodies with a Homogeneous Î²1,4-Galactosylated N-Glycan Profile. Journal of Biological Chemistry, 2009, 284, 20479-20485.	3.4	156
6	CA-074, But Not Its Methyl Ester CA-074Me, Is a Selective Inhibitor of Cathepsin B within Living Cells. Biological Chemistry, 2002, 383, 1305-8.	2.5	142
7	Comparative glycoproteomics of stem cells identifies new players in ricin toxicity. Nature, 2017, 549, 538-542.	27.8	110
8	Molecular cloning and characterization ofArabidopsis thalianaGolgi Î±-mannosidase II, a key enzyme in the formation of complex N-glycans in plants. Plant Journal, 2006, 45, 789-803.	5.7	105
9	A plant-derived human monoclonal antibody induces an anti-carbohydrate immune response in rabbits. Glycobiology, 2007, 18, 235-241.	2.5	105
10	Enzymatic Properties and Subcellular Localization of Arabidopsis Î²-N-Acetylhexosaminidases. Plant Physiology, 2007, 145, 5-16.	4.8	104
11	Chain Elongation of Raffinose in Pea Seeds. Journal of Biological Chemistry, 2002, 277, 194-200.	3.4	91
12	Molecular basis of N-acetylglucosaminyltransferase I deficiency in Arabidopsis thaliana plants lacking complex N-glycans. Biochemical Journal, 2005, 387, 385-391.	3.7	89
13	Arginine/Lysine Residues in the Cytoplasmic Tail Promote ER Export of Plant Glycosylation Enzymes. Traffic, 2009, 10, 101-115.	2.7	84
14	Modulation of invasive properties of murine squamous carcinoma cells by heterologous expression of cathepsin B and cystatin C. , 1999, 83, 526-531.		81
15	Post-Translational Regulation and Trafficking of the Granulin-Containing Protease RD21 of Arabidopsis thaliana. PLoS ONE, 2012, 7, e32422.	2.5	80
16	Naphthylphthalamic acid associates with and inhibits PIN auxin transporters. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	79
17	Functional expression of a cDNA encoding pea (Pisum sativum L.) raffinose synthase, partial purification of the enzyme from maturing seeds, and steady-state kinetic analysis of raffinose synthesis. Planta, 2002, 215, 839-846.	3.2	75
18	Construction of a Functional CMP-Sialic Acid Biosynthesis Pathway in Arabidopsis. Plant Physiology, 2008, 147, 331-339.	4.8	74

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19	Î²-N-Acetylhexosaminidases HEXO1 and HEXO3 Are Responsible for the Formation of Paucimannosidic N-Glycans in Arabidopsis thaliana. Journal of Biological Chemistry, 2011, 286, 10793-10802.	3.4	69
20	The<i>jiaoyao1</i>Mutant Is an Allele of<i>korrigan1</i>That Abolishes Endoglucanase Activity and Affects the Organization of Both Cellulose Microfibrils and Microtubules in<i>Arabidopsis</i>Â Â. Plant Cell, 2014, 26, 2601-2616.	6.6	63
21	<i>Arabidopsis</i> Class I Î±-Mannosidases MNS4 and MNS5 Are Involved in Endoplasmic Reticulumâ€"Associated Degradation of Misfolded Glycoproteins. Plant Cell, 2014, 26, 1712-1728.	6.6	60
22	The human antiâ€HIV antibodies 2F5, 2G12, and PG9 differ in their susceptibility to proteolytic degradation: Downâ€regulation of endogenous serine and cysteine proteinase activities could improve antibody production in plantâ€based expression platforms. Biotechnology Journal, 2014, 9, 493-500.	3.5	59
23	Arabidopsis thaliana Î²1,2-xylosyltransferase: an unusual glycosyltransferase with the potential to act at multiple stages of the plant N-glycosylation pathway. Biochemical Journal, 2005, 388, 515-525.	3.7	57
24	Proteolytic and <i>N</i>-Glycan Processing of Human <i>Î±</i>1-Antitrypsin Expressed in <i>Nicotiana benthamiana</i> Â Â Â Â. Plant Physiology, 2014, 166, 1839-1851.	4.8	55
25	Characterizing the Link between Glycosylation State and Enzymatic Activity of the Endo-Î²1,4-glucanase KORRIGAN1 from Arabidopsis thaliana. Journal of Biological Chemistry, 2013, 288, 22270-22280.	3.4	45
26	Glycan modulation and sulfoengineering of antiâ€"HIV-1 monoclonal antibody PG9 in plants. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12675-12680.	7.1	44
27	Identification of lectin receptors for conserved SARSâ€CoVâ€2 glycosylation sites. EMBO Journal, 2021, 40, e108375.	7.8	44
28	Identification of Protease Specificity by Combining Proteome-Derived Peptide Libraries and Quantitative Proteomics. Molecular and Cellular Proteomics, 2016, 15, 2515-2524.	3.8	43
29	A novel HRM assay for the simultaneous detection and differentiation of eight poxviruses of medical and veterinary importance. Scientific Reports, 2017, 7, 42892.	3.3	43
30	Thyroid Stimulating Hormone Upregulates Secretion of Cathepsin B from Thyroid Epithelial Cells. Biological Chemistry, 2002, 383, 773-84.	2.5	41
31	Accumulation of Sialic Acid in Endocytic Compartments Interferes with the Formation of Mature Lysosomes. Journal of Biological Chemistry, 1999, 274, 19063-19071.	3.4	36
32	Oligomerization status influences subcellular deposition and glycosylation of recombinant butyrylcholinesterase in <i><scp>N</scp>icotiana benthamiana</i>. Plant Biotechnology Journal, 2014, 12, 832-839.	8.3	34
33	A comprehensive antigen production and characterisation study for easy-to-implement, specific and quantitative SARS-CoV-2 serotests. EBioMedicine, 2021, 67, 103348.	6.1	34
34	N-Glycosylation of the SARS-CoV-2 Receptor Binding Domain Is Important for Functional Expression in Plants. Frontiers in Plant Science, 2021, 12, 689104.	3.6	34
35	Biosynthesis of Lysosomal Proteinases in Health and Disease. Biological Chemistry, 2002, 383, 751-6.	2.5	33
36	A proteomic study of the major allergens from yellow jacket venoms. Proteomics, 2007, 7, 1615-1623.	2.2	33

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37	Cellular repressor of E1A-stimulated genes is a bona fide lysosomal protein which undergoes proteolytic maturation during its biosynthesis. Experimental Cell Research, 2008, 314, 3036-3047.	2.6	31
38	The Golgi localization of Arabidopsis thaliana beta1,2-xylosyltransferase in plant cells is dependent on its cytoplasmic and transmembrane sequences. Plant Molecular Biology, 2002, 50, 273-281.	3.9	29
39	Structure-guided glyco-engineering of ACE2 for improved potency as soluble SARS-CoV-2 decoy receptor. ELife, 2021, 10, .	6.0	29
40	The death enzyme CP14 is a unique papain-like cysteine proteinase with a pronounced S2 subsite selectivity. Archives of Biochemistry and Biophysics, 2016, 603, 110-117.	3.0	28
41	The papain-like cysteine proteinases NbCysP6 and NbCysP7 are highly processive enzymes with substrate specificities complementary to Nicotiana benthamiana cathepsin B. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2017, 1865, 444-452.	2.3	28
42	Nicotiana benthamiana cathepsin B displays distinct enzymatic features which differ from its human relative and aleurain-like protease. Biochimie, 2016, 122, 119-125.	2.6	26
43	Generation of enzymatically competent SARSâ€CoVâ€2 decoy receptor ACE2â€Fc in glycoengineered <i>Nicotiana benthamiana</i>. Biotechnology Journal, 2021, 16, e2000566.	3.5	26
44	M6P/IGF2R modulates the invasiveness of liver cells via its capacity to bind mannose 6-phosphate residues. Journal of Hepatology, 2012, 57, 337-343.	3.7	24
45	Plant-based production of highly potent anti-HIV antibodies with engineered posttranslational modifications. Scientific Reports, 2020, 10, 6201.	3.3	22
46	Genome and transcriptome characterization of the glycoengineered Nicotiana benthamiana line Î”XT/FT. BMC Genomics, 2019, 20, 594.	2.8	20
47	Folding Competence of N-terminally Truncated Forms of Human Procathepsin B. Journal of Biological Chemistry, 2005, 280, 11973-11980.	3.4	19
48	The 46-kDa mannose 6-phosphate receptor does not depend on endosomal acidification for delivery of hydrolases to lysosomes. Journal of Cell Science, 2006, 119, 4935-4943.	2.0	19
49	The mannose 6â€phosphate/insulinâ€like growth factor II receptor restricts the tumourigenicity and invasiveness of squamous cell carcinoma cells. International Journal of Cancer, 2009, 124, 2559-2567.	5.1	19
50	Biosynthesis and endocytosis of lysosomal enzymes in human colon carcinoma SW 1116 cells: Impaired internalization of plasma membrane-associated cation-independent mannose 6-phosphate receptor. Archives of Biochemistry and Biophysics, 1992, 298, 176-181.	3.0	18
51	Molecular cloning and heterologous expression of Î²1,2-xylosyltransferase and core Î±1,3-fucosyltransferase from maize. Phytochemistry, 2006, 67, 2215-2224.	2.9	18
52	Drosophila melanogaster cellular repressor of E1A-stimulated genes is a lysosomal protein essential for fly development. Biochimica Et Biophysica Acta - Molecular Cell Research, 2014, 1843, 2900-2912.	4.1	16
53	The two cathepsin B-like proteases of <i>Arabidopsis thaliana</i> are closely related enzymes with discrete endopeptidase and carboxydipeptidase activities. Biological Chemistry, 2018, 399, 1223-1235.	2.5	16
54	Comparative Antigenicity of Thiourea and Adipic Amide Linked Neoglycoconjugates Containing Modified Oligomannose Epitopes for the Carbohydrate-Specific anti-HIV Antibody 2G12. Bioconjugate Chemistry, 2019, 30, 70-82.	3.6	15

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55	Identification of two subtilisinâ€like serine proteases engaged in the degradation of recombinant proteins in <i>NicotianaÂbenthamiana</i>. FEBS Letters, 2021, 595, 379-388.	2.8	12
56	Proteinases and their inhibitors in liver cancer. World Journal of Hepatology, 2009, 1, 28.	2.0	12
57	The mannose 6-phosphate-binding sites of M6P/IGF2R determine its capacity to suppress matrix invasion by squamous cell carcinoma cells. Biochemical Journal, 2013, 451, 91-99.	3.7	11
58	Steric Accessibility of the Cleavage Sites Dictates the Proteolytic Vulnerability of the Antiâ€HIVâ€1 Antibodies 2F5, 2G12, and PG9 in Plants. Biotechnology Journal, 2020, 15, e1900308.	3.5	10
59	Impact of Specific N-Glycan Modifications on the Use of Plant-Produced SARS-CoV-2 Antigens in Serological Assays. Frontiers in Plant Science, 2021, 12, 747500.	3.6	8
60	Designed SARSâ€CoVâ€2 receptor binding domain variants form stable monomers. Biotechnology Journal, 2022, 17, e2100422.	3.5	8
61	Two closely related forms of UDP-GlcNAc: Â6-D-mannoside Â1,2-N-acetylglucosaminyltransferase II occur in the clawed frog Xenopus laevis. Glycoconjugate Journal, 2002, 19, 187-195.	2.7	7
62	Mannose trimming reactions in the early stages of the N-glycan processing pathway. Plant Signaling and Behavior, 2010, 5, 476-478.	2.4	7
63	Introduction of germline residues improves the stability of anti-HIV mAb 2G12-IgM. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 1536-1544.	2.3	7
64	Cathepsins: Getting in Shape for Lysosomal Proteolysis. , 2013, , 127-173.		7
65	Elder (Sambucus nigra L.)-fruit lectin (SNA-IV) occurs in monomeric, dimeric and oligomeric isoforms. Biochemical Journal, 1996, 315, 1061-1061.	3.7	6
66	Molecular Insight into Propeptideâ€“Protein Interactions in Cathepsins L and O. Biochemistry, 2012, 51, 8636-8653.	2.5	6
67	Inositol-phosphodihydroceramides in the periodontal pathogen Tannerella forsythia: Structural analysis and incorporation of exogenous myo-inositol. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2015, 1851, 1417-1427.	2.4	3