Paul Messner

List of Publications by Year
in descending order

106 papers	5,475 citations	71102 41 h-index	91884 69 g-index
109 all docs	109 docs citations	109 times ranked	4036 citing authors

#	Article	IF	Citations
1	Multivalent glycoconjugates as anti-pathogenic agents. Chemical Society Reviews, 2013, 42, 4709-4727.	38.1	464
2	Crystalline Bacterial Cell Surface Layers (S Layers): From Supramolecular Cell Structure to Biomimetics and Nanotechnology. Angewandte Chemie - International Edition, 1999, 38, 1034-1054.	13.8	400
3	Crystalline Bacterial Cell-Surface Layers. Advances in Microbial Physiology, 1992, 33, 213-275.	2.4	286
4	Crystalline bacterial cell surface layers. Molecular Microbiology, 1993, 10, 911-916.	2.5	180
5	The structure of secondary cell wall polymers: how Gram-positive bacteria stick their cell walls together. Microbiology (United Kingdom), 2005, 151, 643-651.	1.8	164
6	Structural and chemical characterization of S-layers of selected strains ofBacillus stearothermophilus andDesulfotomaculum nigrificans. Archives of Microbiology, 1986, 146, 19-24.	2.2	144
7	Bacterial surface layer glycoproteins. Glycobiology, 1991, 1, 545-551.	2.5	119
8	Emerging facets of prokaryotic glycosylation. FEMS Microbiology Reviews, 2017, 41, 49-91.	8.6	114
9	Bacterial glycoproteins. Glycoconjugate Journal, 1997, 14, 3-11.	2.7	111
10	Characterization of dTDP-4-dehydrorhamnose 3,5-Epimerase and dTDP-4-dehydrorhamnose Reductase, Required for dTDP-l-rhamnose Biosynthesis in Salmonella enterica Serovar Typhimurium LT2. Journal of Biological Chemistry, 1999, 274, 25069-25077.	3.4	111
11	Isolation and Characterization of a Thermophilic, Sulfate Reducing Archaebacterium, Archaeoglobus fulgidus Strain Z. Systematic and Applied Microbiology, 1989, 11, 151-160.	2.8	95
12	Biosynthesis of Nucleotide-activatedd-glycero-d-manno-Heptose. Journal of Biological Chemistry, 2001, 276, 20935-20944.	3.4	94
13	Glycobiology of surface layer proteins. Biochimie, 2001, 83, 591-599.	2.6	88
14	Surface-layer glycoproteins: an example for the diversity of bacterial glycosylation with promising impacts on nanobiotechnology. Glycobiology, 2004, 14, 31R-42R.	2.5	84
15	Isolation of Three New Surface Layer Protein Genes (slp) from Lactobacillus brevis ATCC 14869 and Characterization of the Change in Their Expression under Aerated and Anaerobic Conditions. Journal of Bacteriology, 2002, 184, 6786-6795.	2.2	82
16	Characterization and Scope of S-layer Protein O-Glycosylation in Tannerella forsythia. Journal of Biological Chemistry, 2011, 286, 38714-38724.	3.4	82
17	Characterization of the ultrastructure and the self-assembly of the surface layer of Bacillus stearothermophilus strain NRS 2004/3a. Journal of Structural Biology, 1986, 97, 73-88.	0.8	80
18	S-layer nanoglycobiology of bacteria. Carbohydrate Research, 2008, 343, 1934-1951.	2.3	74

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19	Identification of Two GDP-6-deoxy-d-lyxo-4-hexulose Reductases Synthesizing GDP-d-rhamnose in Aneurinibacillus thermoaerophilus L420-91T. Journal of Biological Chemistry, 2001, 276, 5577-5583.	3.4	71
20	The Surface Layer (S-layer) Glycoprotein of Geobacillus stearothermophilus NRS 2004/3a. Journal of Biological Chemistry, 2002, 277, 6230-6239.	3.4	68
21	Methanogenium liminatans spec. nov., a new coccoid, mesophilic methanogen able to oxidize secondary alcohols. Archives of Microbiology, 1990, 153, 287-293.	2.2	67
22	Classification of isolates from locations in Austria and Yellowstone National Park as Geobacillus tepidamans sp. nov.. International Journal of Systematic and Evolutionary Microbiology, 2004, 54, 2361-2368.	1.7	66
23	Lipid layers on polyelectrolyte multilayer supports. Soft Matter, 2008, 4, 2245.	2.7	65
24	Protein tyrosine O-glycosylation--A rather unexplored prokaryotic glycosylation system. Glycobiology, 2010, 20, 787-798.	2.5	62
25	The diacetamidodideoxyuronic-acid-containing glycan chain of Bacillus stearothermophilus NRS 2004/3a represents the secondary cell-wall polymer of wild-type B. stearothermophilus strains. Microbiology (United Kingdom), 1999, 145, 1575-1583.	1.8	58
26	Prokaryotic Glycoproteins: Unexplored but Important. Journal of Bacteriology, 2004, 186, 2517-2519.	2.2	57
27	Two-Dimensional Gel Electrophoresis Analyses of pH-Dependent Protein Expression in Facultatively AlkaliphilicBacillus pseudofirmus OF4 Lead to Characterization of an S-Layer Protein with a Role in Alkaliphily. Journal of Bacteriology, 2000, 182, 5969-5981.	2.2	56
28	Asparaginyl-rhamnose: A novel type of protein-carbohydrate linkage in a eubacterial surface-layer glycoprotein. FEBS Letters, 1988, 228, 317-320.	2.8	53
29	Novel Biocatalysts Based on Sâ€Layer Selfâ€Assembly of Geobacillus Stearothermophilus NRS 2004/3a: A Nanobiotechnological Approach. Small, 2007, 3, 1549-1559.	10.0	53
30	2 Analysis of Crystalline Bacterial Surface Layers by Freeze-etching, Metal Shadowing, Negative Staining and Ultrathin Sectioning. Methods in Microbiology, 1988, 20, 29-60.	0.8	52
31	Evidence for the glycoprotein nature of the crystalline cell wall surface layer ofBacillus stearothermophilusstrain NRS2004/3a. FEBS Letters, 1984, 173, 185-190.	2.8	50
32	Structure of a rhamnan from the surface-layer glyco-protein of Bacillus stearothermophilus strain NRS 2004/3a. Carbohydrate Research, 1986, 150, 265-272.	2.3	49
33	Functional Characterization of the Initiation Enzyme of S-Layer Glycoprotein Glycan Biosynthesis in Geobacillus stearothermophilus NRS 2004/3a. Journal of Bacteriology, 2007, 189, 2590-2598.	2.2	47
34	Glycan structure of a heptose-containing S-layer glycoprotein of Bacillus thermoaerophilus. Glycobiology, 1995, 5, 791-796.	2.5	46
35	Virus-Engineered Colloidal Particlesâ€"A Surface Display System. Angewandte Chemie - International Edition, 2006, 45, 784-789.	13.8	46
36	Construction of a Gene Knockout System for Application in Paenibacillus alvei CCM 2051 ^T , Exemplified by the S-Layer Glycan Biosynthesis Initiation Enzyme WsfP. Applied and Environmental Microbiology, 2009, 75, 3077-3085.	3.1	46

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37	Crystalline envelope layers in archaebacteria. Systematic and Applied Microbiology, 1986, 7, 310-313.	2.8	45
38	Homologs of the Rml Enzymes from Salmonella enterica Are Responsible for dTDP-Î²-l -Rhamnose Biosynthesis in the Gram-Positive Thermophile Aneurinibacillus thermoaerophilus DSM 10155. Applied and Environmental Microbiology, 2002, 68, 3708-3715.	3.1	45
39	Structure of a glycan from the surface-layer glycoprotein of Clostridium thermohydrosulfuricum strain L111-69. Carbohydrate Research, 1988, 176, 160-163.	2.3	42
40	Molecular Basis of S-layer Glycoprotein Glycan Biosynthesis in Geobacillus stearothermophilus. Journal of Biological Chemistry, 2008, 283, 21120-21133.	3.4	42
41	Immunoreactivity of allergen (Bet v 1) conjugated to crystalline bacterial cell surface layers (S-layers). Immunotechnology: an International Journal of Immunological Engineering, 1996, 2, 103-113.	2.4	41
42	Bacterial cell-envelope glycoconjugates. Advances in Carbohydrate Chemistry and Biochemistry, 2013, 69, 209-272.	0.9	41
43	Structure of the glycan chain from the surface layer glycoprotein of Bacillus alvei CCM 2051. Biochemistry and Cell Biology, 1991, 69, 72-78.	2.0	40
44	VI. Applications of S-layers. FEMS Microbiology Reviews, 1997, 20, 151-175.	8.6	40
45	Methanolacinia gen. nov., incorporating Methanomicrobium paynteri as Methanolacinia paynteri comb. nov.. Journal of General and Applied Microbiology, 1989, 35, 185-202.	0.7	39
46	Are S-Layer Glycoproteins and Lipopolysaccharides Related?. Microbial Drug Resistance, 1996, 2, 17-23.	2.0	39
47	III. Biochemistry of S-layers. FEMS Microbiology Reviews, 1997, 20, 25-46.	8.6	39
48	Induction of T-cell immunity to oligosaccharide antigens immobilized on crystalline bacterial surface layers (S-layers). Vaccine, 1993, 11, 919-924.	3.8	37
49	Analysis of the cell surface layer ultrastructure of the oral pathogen Tannerella forsythia. Archives of Microbiology, 2012, 194, 525-539.	2.2	37
50	Characterization of the Glycan Structure of a Major Glycopeptide from the Surface Layer Glycoprotein of Clostridium thermosaccharolyticum E207-71. FEBS Journal, 1995, 229, 308-315.	0.2	37
51	Toward selective elicitation of TH1-controlled vaccination responses: vaccine applications of bacterial surface layer proteins. Journal of Biotechnology, 1996, 44, 225-231.	3.8	35
52	A pyrophosphate bridge links the pyruvate-containing secondary cell wall polymer of Paenibacillus alvei CCM 2051 to muramic acid. Glycoconjugate Journal, 2000, 17, 681-690.	2.7	34
53	Chemical characterization of the regularly arranged surface layer glycoprotein of Clostridium thermosaccharolyticum D120-70. FEBS Journal, 1990, 188, 73-82.	0.2	32
54	Isolation and structure determination of a diacetamidodideoxyuronic acid-containing glycan chain from the S-layer glycoprotein of Bacillus stearothermophilus NRS 2004/3a. Carbohydrate Research, 1987, 168, 211-218.	2.3	31

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55	S-layer glycan-specific loci on the chromosome of Geobacillus stearothermophilus NRS 2004/3a and dTDP-l-rhamnose biosynthesis potential of G. stearothermophilus strains. Microbiology (United) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.8	31
56	The S-Layer Glycomeâ€"Adding to the Sugar Coat of Bacteria. International Journal of Microbiology, 2011, 2011, 1-16.	2.3	31
57	Artificial antigens. Synthetic carbohydrate haptens immobilized on crystalline bacterial surface layer glycoproteins. Carbohydrate Research, 1992, 233, 175-184.	2.3	30
58	New Insights into the Glycosylation of the Surface Layer Protein SgsE from Geobacillus stearothermophilus NRS 2004/3a. Journal of Bacteriology, 2006, 188, 7914-7921.	2.2	30
59	Constitutional and configurational assignments by13C n.m.r. spectroscopy of Escherichia coli capsular polysaccharides containing ribose and 3-deoxy-D-manno-2-octulosonic acid (KDO). Journal of the Chemical Society Chemical Communications, 1982, .	2.0	29
60	Two-dimensional protein crystals (S-layers): Fundamentals and applications. Journal of Cellular Biochemistry, 1994, 56, 171-176.	2.6	29
61	Genetic organization of chromosomal S-layer glycan biosynthesis loci of Bacillaceae. Glycoconjugate Journal, 2003, 20, 435-447.	2.7	29
62	Structure and Immunogenicity of the Rough-Type Lipopolysaccharide from the Periodontal Pathogen Tannerella forsythia. Vaccine Journal, 2013, 20, 945-953.	3.1	28
63	Are the Surface Layer Homology Domains Essential for Cell Surface Display and Glycosylation of the S-Layer Protein from Paenibacillus alvei CCM 2051T?. Journal of Bacteriology, 2013, 195, 565-575.	2.2	28
64	Occurrence, Structure, Chemistry, Genetics, Morphogenesis, and Functions of S-Layers. , 2010, , 53-109.		28
65	The fine structure of the fibers ofPyrodictium occultum. FEMS Microbiology Letters, 1988, 49, 207-212.	1.8	27
66	Glycan structure of the S-layer glycoprotein ofBacillus sp. L420-91. Glycoconjugate Journal, 1995, 12, 99-107.	2.7	27
67	A novel type of carbohydrate-protein linkage region in the tyrosine-bound S-layer glycan of Thermoanaerobacterium thermosaccharolyticum D120-70. FEBS Journal, 2000, 267, 5482-5492.	0.2	27
68	Structural basis of cell wall anchoring by SLH domains in Paenibacillus alvei. Nature Communications, 2018, 9, 3120.	12.8	27
69	N-Acetylmuramic Acid as Capping Element of Î±-D-Fucose-containing S-layer Glycoprotein Glycans from Geobacillus tepidamans GS5â€"97T. Journal of Biological Chemistry, 2005, 280, 20292-20299.	3.4	25
70	Protein O-glucosylation in Lactobacillus buchneri. Glycoconjugate Journal, 2014, 31, 117-131.	2.7	25
71	Recombinant Glycans on an Sâ€Layer Selfâ€Assembly Protein: A New Dimension for Nanopatterned Biomaterials. Small, 2008, 4, 1728-1740.	10.0	24
72	Characterization of the S-Layer Glycoproteins of Two Lactobacilli. , 1993, , 281-284.		24

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73	The first biantennary bacterial secondary cell wall polymer and its influence on S-layer glycoprotein assembly. Biochemical Journal, 2002, 368, 483-494.	3.7	23
74	A pseudaminic acid or a legionaminic acid derivative transferase is strain-specifically implicated in the general protein O-glycosylation system of the periodontal pathogen Tannerella forsythia. Glycobiology, 2017, 27, 555-567.	2.5	22
75	Clostridium viride sp. nov., a strictly anaerobic bacterium using 5-aminovalerate as growth substrate, previously assigned to Clostridium aminovalericum. Archives of Microbiology, 1994, 162, 387-394.	2.2	21
76	Gene cloning, functional expression and secretion of the S-layer protein SgsE fromGeobacillus stearothermophilusNRS 2004/3a inLactococcus lactis. FEMS Microbiology Letters, 2005, 242, 27-35.	1.8	21
77	The dTDP-4-dehydro-6-deoxyglucose reductase encoding fcd gene is part of the surface layer glycoprotein glycosylation gene cluster of Geobacillus tepidamans GS5-97T. Glycobiology, 2007, 17, 433-443.	2.5	21
78	Cell surface display of chimeric glycoproteins via the S-layer of Paenibacillus alvei. Carbohydrate Research, 2010, 345, 1422-1431.	2.3	21
79	Tannerella forsythiastrains display different cell-surface nonulosonic acids: biosynthetic pathway characterization and first insight into biological implications. Glycobiology, 2017, 27, 342-357.	2.5	21
80	The S-Layer Homology Domain-Containing Protein SlhA from Paenibacillus alvei CCMÂ2051T Is Important for Swarming and Biofilm Formation. PLoS ONE, 2013, 8, e76566.	2.5	21
81	Structure of the glycan chain from the surface layer glycoprotein of Clostridium thermophydrosulfuricum L77-66. Biochimica Et Biophysica Acta - General Subjects, 1992, 1117, 71-77.	2.4	20
82	Sequencing of O-Glycopeptides Derived from an S-Layer Glycoprotein of Geobacillus stearothermophilus NRS 2004/3a Containing up to 51 Monosaccharide Residues at a Single Glycosylation Site by Fourier Transform Ion Cyclotron Resonance Infrared Multiphoton Dissociation Mass Spectrometry. Analytical Chemistry, 2007, 79, 3271-3279.	6.5	20
83	Occurrence, Location, Ultrastructure and Morphogenesis of S-Layers. , 1996, , 5-33.		18
84	Isolation and characterization of an amino sugar-rich glycopeptide from the surface layer glycoprotein of Thermoanaerobacterium thermosaccharolyticum E207-71. Carbohydrate Research, 1996, 295, 245-253.	2.3	16
85	Characterizing the Sâ€layer structure and antiâ€Sâ€layer antibody recognition on intact Tannerella forsythia cells by scanning probe microscopy and small angle Xâ€ray scattering. Journal of Molecular Recognition, 2013, 26, 542-549.	2.1	16
86	Lipoteichoic acid mediates binding of a Lactobacillus S-layer protein. Glycobiology, 2018, 28, 148-158.	2.5	16
87	Nonulosonic acids contribute to the pathogenicity of the oral bacterium Tannerella forsythia. Interface Focus, 2019, 9, 20180064.	3.0	16
88	Surface Layers from Bacillus alvei as a Carrier for a Streptococcus pneumoniae Conjugate Vaccine. , 1993, , 219-233.		15
89	Purification and structure elucidation of theN-acetylbacillosamine-containing polysaccharide fromBacillusâ€ƒlicheniformisATCC 9945. FEBS Journal, 2001, 268, 857-864.	0.2	14
90	Prokaryotic Cell Wall Components: Structure and Biochemistry. , 2010, , 459-481.		14

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91	The secondary cell wall polymer of Geobacillus tepidamans GS5-97T: structure of different glycoforms. Carbohydrate Research, 2005, 340, 2290-2296.	2.3	12
92	Biochemical characterization of the major N-acetylmuramidase from Lactobacillus buchneri. Microbiology (United Kingdom), 2014, 160, 1807-1819.	1.8	12
93	Characterization of the Glycan Structure of a Major Glycopeptide from the Surface Layer Glycoprotein of Clostridium thermosaccharolyticum E207-71. FEBS Journal, 1995, 229, 308-315.	0.2	11
94	Glycoprotein Nature of Select Bacterial S-Layers. , 1993, , 95-107.		11
95	Vaccine Development Based on S-Layer Technology. , 1996, , 161-173.		10
96	Taxonomic Comparison of Different Thermophilic Sugar Beet Isolates with Glycosylated Surface Layer (S-Layer) Proteins and their Affiliation to Bacillus smithii. Systematic and Applied Microbiology, 1997, 20, 559-565.	2.8	9
97	Isolation of Glucocardiolipins from Geobacillus stearothermophilus NRS 2004/3a. Journal of Bacteriology, 2002, 184, 6709-6713.	2.2	9
98	Small-Angle X-Ray Scattering for Imaging of Surface Layers on Intact Bacteria in the Native Environment. Journal of Bacteriology, 2013, 195, 2408-2414.	2.2	9
99	The Surface Layer of Peptostreptococcus asaccharolyticus. Systematic and Applied Microbiology, 1988, 10, 226-227.	2.8	4
100	Crystalline Bacterial Cell Surface Layers and their Application Potentials. , 1993, , 105-117.		4
101	Reversible cross-linking of crystalline bacterial surface layer glycoproteins through their glycan chains. Applied Microbiology and Biotechnology, 1993, 40, 7.	3.6	3
102	Surface Layer Glycoproteins of Bacteria and Archaea. , 2002, , 93-125.		3
103	Application Potential of 2D Protein Crystals (Sâ€Łayers)^a. Annals of the New York Academy of Sciences, 1994, 745, 261-269.	3.8	3
104	Bacterial surface layer glycoproteins and â€œnon-classicalâ€•secondary cell wall polymers. , 2010, , 109-128.		2
105	Carb loading takes proteins on a ride. Journal of Biological Chemistry, 2018, 293, 5374-5375.	3.4	2
106	Prokaryotes: Sweet proteins do matter. , 2020, , 3-36.		0