

# Chris Whitfield

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

96  
papers

9,964  
citations

45  
h-index

99  
g-index

186  
ext. papers

11,272  
ext. citations

8.2  
avg, IF

6.63  
L-index

#	Paper	IF	Citations
96	Correction for Sande and Whitfield, "Capsules and Extracellular Polysaccharides in Escherichia coli and Salmonella".. <i>EcoSal Plus</i> , <b>2022</b> , eesp00072022	7.7	
95	Investigation of core machinery for biosynthesis of Vi antigen capsular polysaccharides in Gram-negative bacteria.. <i>Journal of Biological Chemistry</i> , <b>2021</b> , 101486	5.4	0
94	Capsules and Extracellular Polysaccharides in Escherichia coli and Salmonella.. <i>EcoSal Plus</i> , <b>2021</b> , 9, eESP00332020	7.7	0
93	The molecular basis of regulation of bacterial capsule assembly by Wzc. <i>Nature Communications</i> , <b>2021</b> , 12, 4349	17.4	6
92	Analysis of the Topology and Active-Site Residues of WbbF, a Putative O-Polysaccharide Synthase from Salmonella enterica Serovar Borreze. <i>Journal of Bacteriology</i> , <b>2020</b> , 202,	3.5	4
91	A bifunctional O-antigen polymerase structure reveals a new glycosyltransferase family. <i>Nature Chemical Biology</i> , <b>2020</b> , 16, 450-457	11.7	15
90	Lipopolysaccharide O-antigens-bacterial glycans made to measure. <i>Journal of Biological Chemistry</i> , <b>2020</b> , 295, 10593-10609	5.4	31
89	Assembly of Bacterial Capsular Polysaccharides and Exopolysaccharides. <i>Annual Review of Microbiology</i> , <b>2020</b> , 74, 521-543	17.5	46
88	Bioinformatics analysis of diversity in bacterial glycan chain-termination chemistry and organization of carbohydrate-binding modules linked to ABC transporters. <i>Glycobiology</i> , <b>2019</b> , 29, 822-838	5.8	3
87	High-Throughput "FP-Tag" Assay for the Identification of Glycosyltransferase Inhibitors. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 2201-2204	16.4	14
86	O1 and O2ac antigens provide prototypes for an unusual strategy for polysaccharide antigen diversification. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 10863-10876	5.4	9
85	Biosynthesis of a conserved glycolipid anchor for Gram-negative bacterial capsules. <i>Nature Chemical Biology</i> , <b>2019</b> , 15, 632-640	11.7	19
84	Structural and Functional Variation in Outer Membrane Polysaccharide Export (OPX) Proteins from the Two Major Capsule Assembly Pathways Present in Escherichia coli. <i>Journal of Bacteriology</i> , <b>2019</b> , 201,	3.5	6
83	Utilization of Fluorescently Tagged Synthetic Acceptor Molecules for In Vitro Characterization of a Dual-Domain Glycosyltransferase Enzyme, KpsC, from Escherichia coli. <i>Methods in Molecular Biology</i> , <b>2019</b> , 1954, 151-159	1.4	1
82	In Vitro Characterization of a Multidomain Glycosyltransferase Using Fluorescently Tagged Synthetic Acceptors. <i>Methods in Molecular Biology</i> , <b>2019</b> , 1954, 245-253	1.4	
81	Substrate recognition by a carbohydrate-binding module in the prototypical ABC transporter for lipopolysaccharide O-antigen from O9a. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 14978-14990	5.4	4
80	Lipopolysaccharides (Endotoxins) <b>2019</b> ,		4

79	Architecture of a channel-forming O-antigen polysaccharide ABC transporter. <i>Nature</i> , <b>2018</b> , 553, 361-365	5.4	57
78	Molecular basis for the structural diversity in serogroup O2-antigen polysaccharides in. <i>Journal of Biological Chemistry</i> , <b>2018</b> , 293, 4666-4679	5.4	17
77	Capsules and Secreted Extracellular Polysaccharides <b>2018</b> , 604-604		
76	Structural Insight into a Novel Formyltransferase and Evolution to a Nonribosomal Peptide Synthetase Tailoring Domain. <i>ACS Chemical Biology</i> , <b>2018</b> , 13, 3161-3172	4.9	8
75	Periplasmic depolymerase provides insight into ABC transporter-dependent secretion of bacterial capsular polysaccharides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, E4870-E4879	11.5	14
74	Single polysaccharide assembly protein that integrates polymerization, termination, and chain-length quality control. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E1215-E1223	11.5	22
73	Pentamidine sensitizes Gram-negative pathogens to antibiotics and overcomes acquired colistin resistance. <i>Nature Microbiology</i> , <b>2017</b> , 2, 17028	26.6	155
72	Full-length, Oligomeric Structure of Wzz Determined by Cryoelectron Microscopy Reveals Insights into Membrane-Bound States. <i>Structure</i> , <b>2017</b> , 25, 806-815.e3	5.2	25
71	Peptidoglycan Association of Murein Lipoprotein Is Required for KpsD-Dependent Group 2 Capsular Polysaccharide Expression and Serum Resistance in a Uropathogenic Isolate. <i>MBio</i> , <b>2017</b> , 8,	7.8	19
70	Glycolipid substrates for ABC transporters required for the assembly of bacterial cell-envelope and cell-surface glycoconjugates. <i>Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids</i> , <b>2017</b> , 1862, 1394-1403	5	23
69	Biochemical Characterization of Bifunctional 3-Deoxy-β-D-manno-oct-2-ulosonic Acid (Kdo) Transferase KpsC from Escherichia coli Involved in Capsule Biosynthesis. <i>Journal of Biological Chemistry</i> , <b>2016</b> , 291, 21519-21530	5.4	16
68	Dectin-2 Recognizes Mannosylated O-antigens of Human Opportunistic Pathogens and Augments Lipopolysaccharide Activation of Myeloid Cells. <i>Journal of Biological Chemistry</i> , <b>2016</b> , 291, 17629-38	5.4	24
67	Cold Stress Makes Escherichia coli Susceptible to Glycopeptide Antibiotics by Altering Outer Membrane Integrity. <i>Cell Chemical Biology</i> , <b>2016</b> , 23, 267-277	8.2	40
66	A widespread three-component mechanism for the periplasmic modification of bacterial glycoconjugates. <i>Canadian Journal of Chemistry</i> , <b>2016</b> , 94, 883-893	0.9	16
65	Unique lipid anchor attaches Vi antigen capsule to the surface of Salmonella enterica serovar Typhi. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 6719-24	11.5	26
64	Bacterial Kdo glycosyltransferases represent a new glycosyltransferase family (GT99). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, E3120-9	11.5	32
63	The Klebsiella pneumoniae O12 ATP-binding Cassette (ABC) Transporter Recognizes the Terminal Residue of Its O-antigen Polysaccharide Substrate. <i>Journal of Biological Chemistry</i> , <b>2016</b> , 291, 9748-61	5.4	22
62	Domain interactions control complex formation and polymerase specificity in the biosynthesis of the Escherichia coli O9a antigen. <i>Journal of Biological Chemistry</i> , <b>2015</b> , 290, 1075-85	5.4	15

61	Bacteriophage-mediated Glucosylation Can Modify Lipopolysaccharide O-Antigens Synthesized by an ATP-binding Cassette (ABC) Transporter-dependent Assembly Mechanism. <i>Journal of Biological Chemistry</i> , <b>2015</b> , 290, 25561-70	5.4	19
60	A coiled-coil domain acts as a molecular ruler to regulate O-antigen chain length in lipopolysaccharide. <i>Nature Structural and Molecular Biology</i> , <b>2015</b> , 22, 50-56	17.6	45
59	Trapped translocation intermediates establish the route for export of capsular polysaccharides across Escherichia coli outer membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 8203-8	11.5	33
58	Lipopolysaccharide O antigen size distribution is determined by a chain extension complex of variable stoichiometry in Escherichia coli O9a. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 6407-12	11.5	36
57	Biosynthesis and export of bacterial lipopolysaccharides. <i>Annual Review of Biochemistry</i> , <b>2014</b> , 83, 99-128	9.1	419
56	Structure, biosynthesis, and function of bacterial capsular polysaccharides synthesized by ABC transporter-dependent pathways. <i>Carbohydrate Research</i> , <b>2013</b> , 378, 35-44	2.9	146
55	Wzi is an outer membrane lectin that underpins group 1 capsule assembly in Escherichia coli. <i>Structure</i> , <b>2013</b> , 21, 844-53	5.2	47
54	KpsC and KpsS are retaining 3-deoxy-D-manno-oct-2-ulosonic acid (Kdo) transferases involved in synthesis of bacterial capsules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 20753-8	11.5	74
53	The UDP-glucose dehydrogenase of Escherichia coli K-12 displays substrate inhibition by NAD that is relieved by nucleotide triphosphates. <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 23064-74	5.4	14
52	Conserved glycolipid termini in capsular polysaccharides synthesized by ATP-binding cassette transporter-dependent pathways in Gram-negative pathogens. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 7868-73	11.5	72
51	Domain organization of the polymerizing mannosyltransferases involved in synthesis of the Escherichia coli O8 and O9a lipopolysaccharide O-antigens. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 38135-49	5.4	29
50	Structure of WbdD: a bifunctional kinase and methyltransferase that regulates the chain length of the O antigen in Escherichia coli O9a. <i>Molecular Microbiology</i> , <b>2012</b> , 86, 730-42	4.1	25
49	Identification of the methyl phosphate substituent at the non-reducing terminal mannose residue of the O-specific polysaccharides of Klebsiella pneumoniae O3, Hafnia alvei PCM 1223 and Escherichia coli O9/O9a LPS. <i>Carbohydrate Research</i> , <b>2012</b> , 347, 186-8	2.9	17
48	Synthesis of lipopolysaccharide O-antigens by ABC transporter-dependent pathways. <i>Carbohydrate Research</i> , <b>2012</b> , 356, 12-24	2.9	117
47	Biosynthesis of the polymannose lipopolysaccharide O-antigens from Escherichia coli serotypes O8 and O9a requires a unique combination of single- and multiple-active site mannosyltransferases. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 35078-35091	5.4	37
46	Functional and structural characterization of polysaccharide co-polymerase proteins required for polymer export in ATP-binding cassette transporter-dependent capsule biosynthesis pathways. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 16658-68	5.4	27
45	In vitro reconstruction of the chain termination reaction in biosynthesis of the Escherichia coli O9a O-polysaccharide: the chain-length regulator, WbdD, catalyzes the addition of methyl phosphate to the non-reducing terminus of the growing glycan. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 41391-41401	5.4	30
44	A membrane-located glycosyltransferase complex required for biosynthesis of the D-galactan I lipopolysaccharide O antigen in Klebsiella pneumoniae. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 19668-74	5.4	23

43	ABC transporters involved in export of cell surface glycoconjugates. <i>Microbiology and Molecular Biology Reviews</i> , <b>2010</b> , 74, 341-62	13.2	140
42	Structure and functional analysis of LptC, a conserved membrane protein involved in the lipopolysaccharide export pathway in <i>Escherichia coli</i> . <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 33529-33539	5.4	99
41	Coordination of polymerization, chain termination, and export in assembly of the <i>Escherichia coli</i> lipopolysaccharide O9a antigen in an ATP-binding cassette transporter-dependent pathway. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 30662-72	5.4	39
40	The <i>Klebsiella pneumoniae</i> O2a antigen defines a second mechanism for O antigen ATP-binding cassette transporters. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 2947-2956	5.4	49
39	Biochemical and structural analysis of bacterial O-antigen chain length regulator proteins reveals a conserved quaternary structure. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 7395-403	5.4	55
38	Crystal structures of Wzb of <i>Escherichia coli</i> and CpsB of <i>Streptococcus pneumoniae</i> , representatives of two families of tyrosine phosphatases that regulate capsule assembly. <i>Journal of Molecular Biology</i> , <b>2009</b> , 392, 678-88	6.5	54
37	Pivotal roles of the outer membrane polysaccharide export and polysaccharide copolymerase protein families in export of extracellular polysaccharides in gram-negative bacteria. <i>Microbiology and Molecular Biology Reviews</i> , <b>2009</b> , 73, 155-77	13.2	199
36	Periplasmic export machines for outer membrane assembly. <i>Current Opinion in Structural Biology</i> , <b>2008</b> , 18, 466-74	8.1	19
35	Substrate binding by a bacterial ABC transporter involved in polysaccharide export. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 19529-34	11.5	80
34	The 3D structure of a periplasm-spanning platform required for assembly of group 1 capsular polysaccharides in <i>Escherichia coli</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 2390-5	11.5	121
33	Functional characterization of the initiation enzyme of S-layer glycoprotein glycan biosynthesis in <i>Geobacillus stearothermophilus</i> NRS 2004/3a. <i>Journal of Bacteriology</i> , <b>2007</b> , 189, 2590-8	3.5	45
32	Glycosyltransferases involved in biosynthesis of the outer core region of <i>Escherichia coli</i> lipopolysaccharides exhibit broader substrate specificities than is predicted from lipopolysaccharide structures. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 26786-26792	5.4	13
31	Biosynthesis and assembly of capsular polysaccharides in <i>Escherichia coli</i> . <i>Annual Review of Biochemistry</i> , <b>2006</b> , 75, 39-68	29.1	749
30	Wza the translocon for <i>E. coli</i> capsular polysaccharides defines a new class of membrane protein. <i>Nature</i> , <b>2006</b> , 444, 226-9	50.4	273
29	The C-terminal domain of the nucleotide-binding domain protein Wzt determines substrate specificity in the ATP-binding cassette transporter for the lipopolysaccharide O-antigens in <i>Escherichia coli</i> serotypes O8 and O9a. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 30310-9	5.4	72
28	functional analysis of conserved gene products involved in assembly of <i>Escherichia coli</i> capsules and exopolysaccharides: evidence for molecular recognition between Wza and Wzc for colanic acid biosynthesis. <i>Journal of Bacteriology</i> , <b>2005</b> , 187, 5470-81	3.5	67
27	Biosynthesis of a novel 3-deoxy-D-manno-oct-2-ulosonic acid-containing outer core oligosaccharide in the lipopolysaccharide of <i>Klebsiella pneumoniae</i> . <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 27928-40	5.4	23
26	Nonreducing terminal modifications determine the chain length of polymannose O antigens of <i>Escherichia coli</i> and couple chain termination to polymer export via an ATP-binding cassette transporter. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 35709-18	5.4	95

25	Molecular insights into the assembly and diversity of the outer core oligosaccharide in lipopolysaccharides from <i>Escherichia coli</i> and <i>Salmonella</i> . <i>Journal of Endotoxin Research</i> , <b>2003</b> , 9, 244-9		29
24	Biosynthesis and assembly of Group 1 capsular polysaccharides in <i>Escherichia coli</i> and related extracellular polysaccharides in other bacteria. <i>Carbohydrate Research</i> , <b>2003</b> , 338, 2491-502	2.9	111
23	Transcriptional organization and regulation of the <i>Escherichia coli</i> K30 group 1 capsule biosynthesis ( <i>cps</i> ) gene cluster. <i>Molecular Microbiology</i> , <b>2003</b> , 47, 1045-60	4.1	73
22	Translocation of group 1 capsular polysaccharide in <i>Escherichia coli</i> serotype K30. Structural and functional analysis of the outer membrane lipoprotein Wza. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 49763-72	5.4	70
21	A novel outer membrane protein, Wzi, is involved in surface assembly of the <i>Escherichia coli</i> K30 group 1 capsule. <i>Journal of Bacteriology</i> , <b>2003</b> , 185, 5882-90	3.5	59
20	Structures of lipopolysaccharides from <i>Klebsiella pneumoniae</i> . Elucidation of the structure of the linkage region between core and polysaccharide O chain and identification of the residues at the non-reducing termini of the O chains. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 25070-81	5.4	128
19	Impact of phosphorylation of specific residues in the tyrosine autokinase, Wzc, on its activity in assembly of group 1 capsules in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , <b>2002</b> , 184, 6437-47	3.5	97
18	Lipopolysaccharide endotoxins. <i>Annual Review of Biochemistry</i> , <b>2002</b> , 71, 635-700	29.1	3259
17	UDP-galactopyranose mutase has a novel structure and mechanism. <i>Nature Structural Biology</i> , <b>2001</b> , 8, 858-63		127
16	Phosphorylation of Wzc, a tyrosine autokinase, is essential for assembly of group 1 capsular polysaccharides in <i>Escherichia coli</i> . <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 2361-71	5.4	154
15	Functional analysis of the galactosyltransferases required for biosynthesis of D-galactan I, a component of the lipopolysaccharide O1 antigen of <i>Klebsiella pneumoniae</i> . <i>Journal of Bacteriology</i> , <b>2001</b> , 183, 3318-27	3.5	48
14	Conserved organization in the <i>cps</i> gene clusters for expression of <i>Escherichia coli</i> group 1 K antigens: relationship to the colanic acid biosynthesis locus and the <i>cps</i> genes from <i>Klebsiella pneumoniae</i> . <i>Journal of Bacteriology</i> , <b>1999</b> , 181, 2307-13	3.5	99
13	Characterization of dTDP-4-dehydrorhamnose 3,5-epimerase and dTDP-4-dehydrorhamnose reductase, required for dTDP-L-rhamnose biosynthesis in <i>Salmonella enterica</i> serovar Typhimurium LT2. <i>Journal of Biological Chemistry</i> , <b>1999</b> , 274, 25069-77	5.4	86
12	Structure, assembly and regulation of expression of capsules in <i>Escherichia coli</i> . <i>Molecular Microbiology</i> , <b>1999</b> , 31, 1307-19	4.1	427
11	Gene products required for surface expression of the capsular form of the group 1 K antigen in <i>Escherichia coli</i> (O9a:K30). <i>Molecular Microbiology</i> , <b>1999</b> , 31, 1321-32	4.1	130
10	Molecular basis for structural diversity in the core regions of the lipopolysaccharides of <i>Escherichia coli</i> and <i>Salmonella enterica</i> . <i>Molecular Microbiology</i> , <b>1998</b> , 30, 221-32	4.1	296
9	The assembly system for the outer core portion of R1- and R4-type lipopolysaccharides of <i>Escherichia coli</i> . The R1 core-specific beta-glucosyltransferase provides a novel attachment site for O-polysaccharides. <i>Journal of Biological Chemistry</i> , <b>1998</b> , 273, 29497-505	5.4	76
8	UDP-galactofuranose precursor required for formation of the lipopolysaccharide O antigen of <i>Klebsiella pneumoniae</i> serotype O1 is synthesized by the product of the <i>rfdDKPO1</i> gene. <i>Journal of Biological Chemistry</i> , <b>1997</b> , 272, 4121-8	5.4	104



7	Modulation of the surface architecture of gram-negative bacteria by the action of surface polymer:lipid A-core ligase and by determinants of polymer chain length. <i>Molecular Microbiology</i> , <b>1997</b> , 23, 629-38	4.1	126
6	Molecular and functional analysis of genes required for expression of group IB K antigens in <i>Escherichia coli</i> : characterization of the his-region containing gene clusters for multiple cell-surface polysaccharides. <i>Molecular Microbiology</i> , <b>1997</b> , 26, 145-61	4.1	60
5	A novel pathway for O-polysaccharide biosynthesis in <i>Salmonella enterica</i> serovar Borreze. <i>Journal of Biological Chemistry</i> , <b>1996</b> , 271, 28581-92	5.4	110
4	A plasmid-encoded rfbO:54 gene cluster is required for biosynthesis of the O:54 antigen in <i>Salmonella enterica</i> serovar Borreze. <i>Molecular Microbiology</i> , <b>1994</b> , 11, 437-48	4.1	45
3	Identification of an ATP-binding cassette transport system required for translocation of lipopolysaccharide O-antigen side-chains across the cytoplasmic membrane of <i>Klebsiella pneumoniae</i> serotype O1. <i>Molecular Microbiology</i> , <b>1994</b> , 14, 505-19	4.1	95
2	Structural variation in the O-specific polysaccharides of <i>Klebsiella pneumoniae</i> serotype O1 and O8 lipopolysaccharide: evidence for clonal diversity in rfb genes. <i>Molecular Microbiology</i> , <b>1993</b> , 10, 615-25	4.1	51
1	Periplasmic Events in the Assembly of Bacterial Lipopolysaccharides 214-234		