Suzanne Walker

List of Publications by Year
in descending order

116 papers	12,407 citations	31976 53 h-index	29157 104 g-index
201 all docs	201 docs citations	201 times ranked	11212 citing authors

#	Article	IF	Citations
1	The Bacterial Cell Envelope. Cold Spring Harbor Perspectives in Biology, 2010, 2, a000414-a000414.	5.5	2,408
2	Wall Teichoic Acids of Gram-Positive Bacteria. Annual Review of Microbiology, 2013, 67, 313-336.	7.3	742
3	SEDS proteins are a widespread family of bacterial cell wall polymerases. Nature, 2016, 537, 634-638.	27.8	448
4	Structure of human O-GlcNAc transferase and its complex with a peptide substrate. Nature, 2011, 469, 564-567.	27.8	385
5	Wall Teichoic Acid Function, Biosynthesis, and Inhibition. ChemBioChem, 2010, 11, 35-45.	2.6	327
6	Lipid II Is an Intrinsic Component of the Pore Induced by Nisin in Bacterial Membranes. Journal of Biological Chemistry, 2003, 278, 19898-19903.	3.4	284
7	Synthetic Lethal Compound Combinations Reveal a Fundamental Connection between Wall Teichoic Acid and Peptidoglycan Biosyntheses in <i>Staphylococcus aureus</i>. ACS Chemical Biology, 2011, 6, 106-116.	3.4	276
8	Methicillin resistance in <i>Staphylococcus</i> <i>aureus</i> requires glycosylated wall teichoic acids. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 18909-18914.	7.1	254
9	The 1.9 Ã… crystal structure of <i>Escherichia coli</i> MurG, a membraneâ€associated glycosyltransferase involved in peptidoglycan biosynthesis. Protein Science, 2000, 9, 1045-1052.	7.6	243
10	Crystal structure of the MurG:UDP-GlcNAc complex reveals common structural principles of a superfamily of glycosyltransferases. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 845-849.	7.1	234
11	FtsW is a peptidoglycan polymerase that is functional only in complex with its cognate penicillin-binding protein. Nature Microbiology, 2019, 4, 587-594.	13.3	233
12	Discovery ofO-GlcNAc Transferase Inhibitors. Journal of the American Chemical Society, 2005, 127, 14588-14589.	13.7	226
13	A Small Molecule That Inhibits OGT Activity in Cells. ACS Chemical Biology, 2015, 10, 1392-1397.	3.4	192
14	MreB filaments align along greatest principal membrane curvature to orient cell wall synthesis. ELife, 2018, 7, .	6.0	179
15	HCF-1 Is Cleaved in the Active Site of O-GlcNAc Transferase. Science, 2013, 342, 1235-1239.	12.6	162
16	Better Substrates for Bacterial Transglycosylases. Journal of the American Chemical Society, 2001, 123, 3155-3156.	13.7	158
17	The Biochemistry of <i>O</i>-GlcNAc Transferase: Which Functions Make It Essential in Mammalian Cells?. Annual Review of Biochemistry, 2016, 85, 631-657.	11.1	155
18	Moenomycin family antibiotics: chemical synthesis, biosynthesis, and biological activity. Natural Product Reports, 2010, 27, 1594.	10.3	152

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19	Envelope Structures of Gram-Positive Bacteria. Current Topics in Microbiology and Immunology, 2015, 404, 1-44.	1.1	152
20	Chemistry and Biology of Ramoplanin:â€‰ A Lipoglycodepsipeptide with Potent Antibiotic Activity. Chemical Reviews, 2005, 105, 449-476.	47.7	150
21	Crystal structure of a peptidoglycan glycosyltransferase suggests a model for processive glycan chain synthesis. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5348-5353.	7.1	135
22	Structural snapshots of the reaction coordinate for O-GlcNAc transferase. Nature Chemical Biology, 2012, 8, 966-968.	8.0	132
23	Discovery of Wall Teichoic Acid Inhibitors as Potential Anti-MRSA Î²-Lactam Combination Agents. Chemistry and Biology, 2013, 20, 272-284.	6.0	132
24	Genes Contributing to Staphylococcus aureus Fitness in Abscess- and Infection-Related Ecologies. MBio, 2014, 5, e01729-14.	4.1	130
25	Discovery of a Small Molecule that Blocks Wall Teichoic Acid Biosynthesis in <i>Staphylococcus aureus</i>. ACS Chemical Biology, 2009, 4, 875-883.	3.4	128
26	Transpeptidase-Mediated Incorporation of <scp>d</scp>-Amino Acids into Bacterial Peptidoglycan. Journal of the American Chemical Society, 2011, 133, 10748-10751.	13.7	125
27	A central role for PBP2 in the activation of peptidoglycan polymerization by the bacterial cell elongation machinery. PLoS Genetics, 2018, 14, e1007726.	3.5	119
28	Structure-Based Evolution of Low Nanomolar O-GlcNAc Transferase Inhibitors. Journal of the American Chemical Society, 2018, 140, 13542-13545.	13.7	117
29	A Revised Pathway Proposed for Staphylococcus aureus Wall Teichoic Acid Biosynthesis Based on In Vitro Reconstitution of the Intracellular Steps. Chemistry and Biology, 2008, 15, 12-21.	6.0	110
30	Structure of the peptidoglycan polymerase RodA resolved by evolutionary coupling analysis. Nature, 2018, 556, 118-121.	27.8	110
31	Maturing Mycobacterium smegmatis peptidoglycan requires non-canonical crosslinks to maintain shape. ELife, 2018, 7, .	6.0	108
32	Detection of Lipid-Linked Peptidoglycan Precursors by Exploiting an Unexpected Transpeptidase Reaction. Journal of the American Chemical Society, 2014, 136, 14678-14681.	13.7	100
33	Reconstitution of Peptidoglycan Cross-Linking Leads to Improved Fluorescent Probes of Cell Wall Synthesis. Journal of the American Chemical Society, 2014, 136, 10874-10877.	13.7	99
34	Lipid II overproduction allows direct assay of transpeptidase inhibition by Î²-lactams. Nature Chemical Biology, 2017, 13, 793-798.	8.0	99
35	Genome-wide screen for genes involved in eDNA release during biofilm formation by <i>Staphylococcus aureus</i>. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5969-E5978.	7.1	97
36	Late-Stage Polyribitol Phosphate Wall Teichoic Acid Biosynthesis in <i>Staphylococcus aureus</i>. Journal of Bacteriology, 2008, 190, 3046-3056.	2.2	92

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37	Structural coordination of polymerization and crosslinking by a SEDSâ€“bPBP peptidoglycan synthase complex. Nature Microbiology, 2020, 5, 813-820.	13.3	91
38	Teichoic acid biosynthesis as an antibiotic target. Current Opinion in Microbiology, 2013, 16, 531-537.	5.1	87
39	The Kinetic Characterization ofEscherichiacoliMurG Using Synthetic Substrate Analogues. Journal of the American Chemical Society, 1999, 121, 8415-8426.	13.7	86
40	Compound-gene interaction mapping reveals distinct roles for <i>Staphylococcus aureus</i> teichoic acids. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12510-12515.	7.1	84
41	The Direction of Glycan Chain Elongation by Peptidoglycan Glycosyltransferases. Journal of the American Chemical Society, 2007, 129, 12674-12675.	13.7	82
42	Substrate Synthesis and Activity Assay for MurG. Journal of the American Chemical Society, 1998, 120, 2484-2485.	13.7	81
43	A new platform for ultra-high density Staphylococcus aureus transposon libraries. BMC Genomics, 2015, 16, 252.	2.8	80
44	<i>O</i>-GlcNAc Transferase Recognizes Protein Substrates Using an Asparagine Ladder in the Tetratricopeptide Repeat (TPR) Superhelix. Journal of the American Chemical Society, 2018, 140, 3510-3513.	13.7	79
45	Analysis of Glycan Polymers Produced by Peptidoglycan Glycosyltransferases. Journal of Biological Chemistry, 2007, 282, 31964-31971.	3.4	78
46	Uncovering the activities, biological roles, and regulation of bacterial cell wall hydrolases and tailoring enzymes. Journal of Biological Chemistry, 2020, 295, 3347-3361.	3.4	76
47	Lipoprotein Activators Stimulate <i>Escherichia coli</i> Penicillin-Binding Proteins by Different Mechanisms. Journal of the American Chemical Society, 2014, 136, 52-55.	13.7	72
48	Lipid-linked cell wall precursors regulate membrane association of bacterial actin MreB. Nature Chemical Biology, 2015, 11, 38-45.	8.0	71
49	In vitro reconstitution demonstrates the cell wall ligase activity of LCP proteins. Nature Chemical Biology, 2017, 13, 396-401.	8.0	68
50	Multi-strain Tn-Seq reveals common daptomycin resistance determinants in Staphylococcus aureus. PLoS Pathogens, 2019, 15, e1007862.	4.7	68
51	O-GlcNAc regulates gene expression by controlling detained intron splicing. Nucleic Acids Research, 2020, 48, 5656-5669.	14.5	67
52	A synthetic lethal approach for compound and target identification in Staphylococcus aureus. Nature Chemical Biology, 2016, 12, 40-45.	8.0	66
53	Structural characterization of the O-GlcNAc cycling enzymes: insights into substrate recognition and catalytic mechanisms. Current Opinion in Structural Biology, 2019, 56, 97-106.	5.7	66
54	Development of improved inhibitors of wall teichoic acid biosynthesis with potent activity against Staphylococcus aureus. Bioorganic and Medicinal Chemistry Letters, 2010, 20, 1767-1770.	2.2	64

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55	Identification of a Functionally Unique Family of Penicillin-Binding Proteins. Journal of the American Chemical Society, 2017, 139, 17727-17730.	13.7	63
56	Genome-wide mutant profiling predicts the mechanism of a Lipid II binding antibiotic. Nature Chemical Biology, 2018, 14, 601-608.	8.0	60
57	The Mechanism of Action of Lysobactin. Journal of the American Chemical Society, 2016, 138, 100-103.	13.7	58
58	High OGT activity is essential for MYC-driven proliferation of prostate cancer cells. Theranostics, 2019, 9, 2183-2197.	10.0	58
59	The Making of a Sweet Modification: Structure and Function of O-GlcNAc Transferase. Journal of Biological Chemistry, 2014, 289, 34424-34432.	3.4	55
60	ABC Transporters Required for Export of Wall Teichoic Acids Do Not Discriminate between Different Main Chain Polymers. ACS Chemical Biology, 2011, 6, 407-412.	3.4	54
61	Moenomycin Resistance Mutations in <i>Staphylococcus aureus</i> Reduce Peptidoglycan Chain Length and Cause Aberrant Cell Division. ACS Chemical Biology, 2014, 9, 459-467.	3.4	54
62	Aspartate Residues Far from the Active Site Drive O-GlcNAc Transferase Substrate Selection. Journal of the American Chemical Society, 2019, 141, 12974-12978.	13.7	53
63	Substrate analogues to study cell-wall biosynthesis and its inhibition. Current Opinion in Chemical Biology, 2002, 6, 786-793.	6.1	49
64	Reconstitution of <i>Staphylococcus aureus</i> Lipoteichoic Acid Synthase Activity Identifies Congo Red as a Selective Inhibitor. Journal of the American Chemical Society, 2018, 140, 876-879.	13.7	49
65	Forming Cross-Linked Peptidoglycan from Synthetic Gram-Negative Lipid II. Journal of the American Chemical Society, 2013, 135, 4632-4635.	13.7	48
66	Mammalian cell proliferation requires noncatalytic functions of O-GlcNAc transferase. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	48
67	The Role of the Substrate Lipid in Processive Glycan Polymerization by the Peptidoglycan Glycosyltransferases. Journal of the American Chemical Society, 2010, 132, 48-49.	13.7	47
68	Peptidoglycan Cross-Linking Preferences of <i>Staphylococcus aureus</i> Penicillin-Binding Proteins Have Implications for Treating MRSA Infections. Journal of the American Chemical Society, 2017, 139, 9791-9794.	13.7	47
69	Multidrug Intrinsic Resistance Factors in Staphylococcus aureus Identified by Profiling Fitness within High-Diversity Transposon Libraries. MBio, 2016, 7, .	4.1	46
70	Development and Characterization of Potent Cyclic Acyldepsipeptide Analogues with Increased Antimicrobial Activity. Journal of Medicinal Chemistry, 2016, 59, 624-646.	6.4	44
71	Staphylococcus aureus cell growth and division are regulated by an amidase that trims peptides from uncrosslinked peptidoglycan. Nature Microbiology, 2020, 5, 291-303.	13.3	44
72	A partial reconstitution implicates DltD in catalyzing lipoteichoic acid d-alanylation. Journal of Biological Chemistry, 2018, 293, 17985-17996.	3.4	42

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73	Microarray Discovery of New OGT Substrates: The Medulloblastoma Oncogene OTX2 Is <i>O</i>-GlcNAcylated. Journal of the American Chemical Society, 2014, 136, 4845-4848.	13.7	40
74	A New Structure for the Substrate-Binding Antibiotic Ramoplanin. Journal of the American Chemical Society, 2001, 123, 8640-8641.	13.7	38
75	Cofactor bypass variants reveal a conformational control mechanism governing cell wall polymerase activity. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4788-4793.	7.1	36
76	Membrane Potential Is Required for MurJ Function. Journal of the American Chemical Society, 2018, 140, 4481-4484.	13.7	35
77	Wall teichoic acid protects Staphylococcus aureus from inhibition by Congo red and other dyes. Journal of Antimicrobial Chemotherapy, 2012, 67, 2143-2151.	3.0	34
78	Highâ€throughput transposon sequencing highlights the cell wall as an important barrier for osmotic stress in methicillin resistant <i>Staphylococcus aureus</i> and underlines a tailored response to different osmotic stressors. Molecular Microbiology, 2020, 113, 699-717.	2.5	34
79	Primer Preactivation of Peptidoglycan Polymerases. Journal of the American Chemical Society, 2011, 133, 8528-8530.	13.7	33
80	Inhibition of O-GlcNAc Transferase Renders Prostate Cancer Cells Dependent on CDK9. Molecular Cancer Research, 2020, 18, 1512-1521.	3.4	32
81	The Length of Lipoteichoic Acid Polymers Controls Staphylococcus aureus Cell Size and Envelope Integrity. Journal of Bacteriology, 2020, 202, .	2.2	31
82	RNA polymerase mutations cause cephalosporin resistance in clinical Neisseria gonorrhoeae isolates. ELife, 2020, 9, .	6.0	31
83	HCF-1 Regulates De Novo Lipogenesis through a Nutrient-Sensitive Complex with ChREBP. Molecular Cell, 2019, 75, 357-371.e7.	9.7	30
84	Inhibition of O-Linked <i>N</i> -Acetylglucosamine Transferase Reduces Replication of Herpes Simplex Virus and Human Cytomegalovirus. Journal of Virology, 2015, 89, 8474-8483.	3.4	29
85	How the glycosyltransferase OGT catalyzes amide bond cleavage. Nature Chemical Biology, 2016, 12, 899-901.	8.0	29
86	Studying a Cell Division Amidase Using Defined Peptidoglycan Substrates. Journal of the American Chemical Society, 2009, 131, 18230-18231.	13.7	26
87	Identification and characterization of the Streptomyces globisporus 1912 regulatory gene lndYR that affects sporulation and antibiotic production. Microbiology (United Kingdom), 2011, 157, 1240-1249.	1.8	25
88	Accelerating the discovery of antibacterial compounds using pathway-directed whole cell screening. Bioorganic and Medicinal Chemistry, 2016, 24, 6307-6314.	3.0	25
89	Substrate Preferences Establish the Order of Cell Wall Assembly in <i>Staphylococcus aureus</i>. Journal of the American Chemical Society, 2018, 140, 2442-2445.	13.7	25
90	Direction of Chain Growth and Substrate Preferences of Shape, Elongation, Division, and Sporulation-Family Peptidoglycan Glycosyltransferases. Journal of the American Chemical Society, 2019, 141, 12994-12997.	13.7	23

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91	Mode of action and structureâ€“activity relationship studies of geobacillin I. Journal of Antibiotics, 2014, 67, 133-136.	2.0	22
92	Protein Substrates Engage the Lumen of O-GlcNAc Transferaseâ€™s Tetratricopeptide Repeat Domain in Different Ways. Biochemistry, 2021, 60, 847-853.	2.5	22
93	Structure and reconstitution of a hydrolase complex that may release peptidoglycan from the membrane after polymerization. Nature Microbiology, 2021, 6, 34-43.	13.3	21
94	Biochemical reconstitution defines new functions for membrane-bound glycosidases in assembly of the bacterial cell wall. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
95	Chemical tools to characterize peptidoglycan synthases. Current Opinion in Chemical Biology, 2019, 53, 44-50.	6.1	20
96	Pathway-Directed Screen for Inhibitors of the Bacterial Cell Elongation Machinery. Antimicrobial Agents and Chemotherapy, 2019, 63, .	3.2	20
97	Detection of Transport Intermediates in the Peptidoglycan Flippase MurJ Identifies Residues Essential for Conformational Cycling. Journal of the American Chemical Society, 2020, 142, 5482-5486.	13.7	19
98	Antibiotic That Inhibits the ATPase Activity of an ATP-Binding Cassette Transporter by Binding to a Remote Extracellular Site. Journal of the American Chemical Society, 2017, 139, 10597-10600.	13.7	18
99	Antibiotic Combinations That Enable One-Step, Targeted Mutagenesis of Chromosomal Genes. ACS Infectious Diseases, 2018, 4, 1007-1018.	3.8	18
100	CDK9 Inhibition Induces a Metabolic Switch that Renders Prostate Cancer Cells Dependent on Fatty Acid Oxidation. Neoplasia, 2019, 21, 713-720.	5.3	18
101	Novel protein acetyltransferase, Rv2170, modulates carbon and energy metabolism in Mycobacterium tuberculosis. Scientific Reports, 2017, 7, 72.	3.3	16
102	Lipoteichoic acid polymer length is determined by competition between free starter units. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 29669-29676.	7.1	16
103	Aspartate Glycosylation Triggers Isomerization to Isoaspartate. Journal of the American Chemical Society, 2017, 139, 3332-3335.	13.7	14
104	Exposure of Staphylococcus aureus to Targocil Blocks Translocation of the Major Autolysin Atl across the Membrane, Resulting in a Significant Decrease in Autolysis. Antimicrobial Agents and Chemotherapy, 2018, 62, .	3.2	14
105	A gene cluster for the biosynthesis of moenomycin family antibiotics in the genome of teicoplanin producer Actinoplanes teichomyceticus. Applied Microbiology and Biotechnology, 2016, 100, 7629-7638.	3.6	12
106	Gene ssfg_01967 (miaB) for tRNA modification influences morphogenesis and moenomycin biosynthesis in Streptomyces ghanaensis ATCC14672. Microbiology (United Kingdom), 2019, 165, 233-245.	1.8	11
107	Natural products that target the cell envelope. Current Opinion in Microbiology, 2021, 61, 16-24.	5.1	10
108	Bacillus anthracis Responds to Targocil-Induced Envelope Damage through EdsRS Activation of Cardiolipin Synthesis. MBio, 2020, 11, .	4.1	8

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109	Rapid Inhibitor Discovery by Exploiting Synthetic Lethality. Journal of the American Chemical Society, 2022, 144, 3696-3705.	13.7	7
110	Metal cofactor stabilization by a partner protein is a widespread strategy employed for amidase activation. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	4
111	O-GlcNAc transferase maintains metabolic homeostasis in response to CDK9 inhibition. Glycobiology, 0, , .	2.5	1
112	Spatial and Temporal Organization of Peptidoglycan Biosynthesis. FASEB Journal, 2006, 20, A1472.	0.5	0
113	Development of protein microarray tools for the ex vivo profiling of Oâ€linked Nâ€acetylglucosamine transferase (OGT) substrates. FASEB Journal, 2013, 27, lb68.	0.5	0
114	Structural Insights into Oâ€GlcNAc Transferase. FASEB Journal, 2013, 27, 452.4.	0.5	0
115	Detection of Lipidâ€Linked Peptidoglycan Precursors by Exploiting an Unexpected Transpeptidase Reaction. FASEB Journal, 2015, 29, 573.11.	0.5	0
116	The Split Personality of Human Oâ€GlcNAc Transferase. FASEB Journal, 2015, 29, 489.1.	0.5	0