Suzanne Walker

List of Publications by Year
in descending order

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Version: 2024-02-01

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	Rapid Inhibitor Discovery by Exploiting Synthetic Lethality. Journal of the American Chemical Society, 2022, 144, 3696-3705.	13.7	7
2	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
3	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
4	Protein Substrates Engage the Lumen of O-GlcNAc Transferaseâ€™s Tetratricopeptide Repeat Domain in Different Ways. Biochemistry, 2021, 60, 847-853.	2.5	22
5	Natural products that target the cell envelope. Current Opinion in Microbiology, 2021, 61, 16-24.	5.1	10
6	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
7	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
8	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
9	Highâ€throughput transposon sequencing highlights the cell wall as an important barrier for osmotic stress in methicillin resistant Staphylococcus aureus and underlines a tailored response to different osmotic stressors. Molecular Microbiology, 2020, 113, 699-717.	2.5	34
10	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
11	The Length of Lipoteichoic Acid Polymers Controls Staphylococcus aureus Cell Size and Envelope Integrity. Journal of Bacteriology, 2020, 202, .	2.2	31
12	Structural coordination of polymerization and crosslinking by a SEDSâ€“bPBP peptidoglycan synthase complex. Nature Microbiology, 2020, 5, 813-820.	13.3	91
13	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
14	Inhibition of O-GlcNAc Transferase Renders Prostate Cancer Cells Dependent on CDK9. Molecular Cancer Research, 2020, 18, 1512-1521.	3.4	32
15	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
16	O-GlcNAc regulates gene expression by controlling detained intron splicing. Nucleic Acids Research, 2020, 48, 5656-5669.	14.5	67
17	Bacillus anthracis Responds to Targocil-Induced Envelope Damage through EdsRS Activation of Cardiolipin Synthesis. MBio, 2020, 11, .	4.1	8
18	RNA polymerase mutations cause cephalosporin resistance in clinical Neisseria gonorrhoeae isolates. ELife, 2020, 9, .	6.0	31

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19	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
20	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
21	HCF-1 Regulates De Novo Lipogenesis through a Nutrient-Sensitive Complex with ChREBP. Molecular Cell, 2019, 75, 357-371.e7.	9.7	30
22	Chemical tools to characterize peptidoglycan synthases. Current Opinion in Chemical Biology, 2019, 53, 44-50.	6.1	20
23	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
24	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
25	CDK9 Inhibition Induces a Metabolic Switch that Renders Prostate Cancer Cells Dependent on Fatty Acid Oxidation. Neoplasia, 2019, 21, 713-720.	5.3	18
26	High OGT activity is essential for MYC-driven proliferation of prostate cancer cells. Theranostics, 2019, 9, 2183-2197.	10.0	58
27	Multi-strain Tn-Seq reveals common daptomycin resistance determinants in Staphylococcus aureus. PLoS Pathogens, 2019, 15, e1007862.	4.7	68
28	Pathway-Directed Screen for Inhibitors of the Bacterial Cell Elongation Machinery. Antimicrobial Agents and Chemotherapy, 2019, 63, .	3.2	20
29	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
30	O-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
31	Genome-wide mutant profiling predicts the mechanism of a Lipid II binding antibiotic. Nature Chemical Biology, 2018, 14, 601-608.	8.0	60
32	Substrate Preferences Establish the Order of Cell Wall Assembly in Staphylococcus aureus. Journal of the American Chemical Society, 2018, 140, 2442-2445.	13.7	25
33	Reconstitution of Staphylococcus aureus Lipoteichoic Acid Synthase Activity Identifies Congo Red as a Selective Inhibitor. Journal of the American Chemical Society, 2018, 140, 876-879.	13.7	49
34	Antibiotic Combinations That Enable One-Step, Targeted Mutagenesis of Chromosomal Genes. ACS Infectious Diseases, 2018, 4, 1007-1018.	3.8	18
35	Structure of the peptidoglycan polymerase RodA resolved by evolutionary coupling analysis. Nature, 2018, 556, 118-121.	27.8	110
36	Membrane Potential Is Required for MurJ Function. Journal of the American Chemical Society, 2018, 140, 4481-4484.	13.7	35

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37	Structure-Based Evolution of Low Nanomolar O-GlcNAc Transferase Inhibitors. Journal of the American Chemical Society, 2018, 140, 13542-13545.	13.7	117
38	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
39	A partial reconstitution implicates DltD in catalyzing lipoteichoic acid d-alanylation. Journal of Biological Chemistry, 2018, 293, 17985-17996.	3.4	42
40	MreB filaments align along greatest principal membrane curvature to orient cell wall synthesis. ELife, 2018, 7, .	6.0	179
41	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
42	Maturing Mycobacterium smegmatis peptidoglycan requires non-canonical crosslinks to maintain shape. ELife, 2018, 7, .	6.0	108
43	Aspartate Glycosylation Triggers Isomerization to Isoaspartate. Journal of the American Chemical Society, 2017, 139, 3332-3335.	13.7	14
44	In vitro reconstitution demonstrates the cell wall ligase activity of LCP proteins. Nature Chemical Biology, 2017, 13, 396-401.	8.0	68
45	Lipid II overproduction allows direct assay of transpeptidase inhibition by Î²-lactams. Nature Chemical Biology, 2017, 13, 793-798.	8.0	99
46	Novel protein acetyltransferase, Rv2170, modulates carbon and energy metabolism in Mycobacterium tuberculosis. Scientific Reports, 2017, 7, 72.	3.3	16
47	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
48	Identification of a Functionally Unique Family of Penicillin-Binding Proteins. Journal of the American Chemical Society, 2017, 139, 17727-17730.	13.7	63
49	Peptidoglycan Cross-Linking Preferences of Staphylococcus aureus Penicillin-Binding Proteins Have Implications for Treating MRSA Infections. Journal of the American Chemical Society, 2017, 139, 9791-9794.	13.7	47
50	Genome-wide screen for genes involved in eDNA release during biofilm formation by Staphylococcus aureus. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5969-E5978.	7.1	97
51	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
52	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
53	Accelerating the discovery of antibacterial compounds using pathway-directed whole cell screening. Bioorganic and Medicinal Chemistry, 2016, 24, 6307-6314.	3.0	25
54	SEDS proteins are a widespread family of bacterial cell wall polymerases. Nature, 2016, 537, 634-638.	27.8	448

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55	Multidrug Intrinsic Resistance Factors in Staphylococcus aureus Identified by Profiling Fitness within High-Diversity Transposon Libraries. MBio, 2016, 7, .	4.1	46
56	How the glycosyltransferase OGT catalyzes amide bond cleavage. Nature Chemical Biology, 2016, 12, 899-901.	8.0	29
57	The Biochemistry of O-GlcNAc Transferase: Which Functions Make It Essential in Mammalian Cells?. Annual Review of Biochemistry, 2016, 85, 631-657.	11.1	155
58	Development and Characterization of Potent Cyclic Acyldepsipeptide Analogues with Increased Antimicrobial Activity. Journal of Medicinal Chemistry, 2016, 59, 624-646.	6.4	44
59	The Mechanism of Action of Lysobactin. Journal of the American Chemical Society, 2016, 138, 100-103.	13.7	58
60	A synthetic lethal approach for compound and target identification in Staphylococcus aureus. Nature Chemical Biology, 2016, 12, 40-45.	8.0	66
61	Inhibition of O-Linked N -Acetylglucosamine Transferase Reduces Replication of Herpes Simplex Virus and Human Cytomegalovirus. Journal of Virology, 2015, 89, 8474-8483.	3.4	29
62	Envelope Structures of Gram-Positive Bacteria. Current Topics in Microbiology and Immunology, 2015, 404, 1-44.	1.1	152
63	A new platform for ultra-high density Staphylococcus aureus transposon libraries. BMC Genomics, 2015, 16, 252.	2.8	80
64	A Small Molecule That Inhibits OGT Activity in Cells. ACS Chemical Biology, 2015, 10, 1392-1397.	3.4	192
65	Lipid-linked cell wall precursors regulate membrane association of bacterial actin MreB. Nature Chemical Biology, 2015, 11, 38-45.	8.0	71
66	Detection of Lipidâ€Linked Peptidoglycan Precursors by Exploiting an Unexpected Transpeptidase Reaction. FASEB Journal, 2015, 29, 573.11.	0.5	0
67	The Split Personality of Human Oâ€GlcNAc Transferase. FASEB Journal, 2015, 29, 489.1.	0.5	0
68	The Making of a Sweet Modification: Structure and Function of O-GlcNAc Transferase. Journal of Biological Chemistry, 2014, 289, 34424-34432.	3.4	55
69	Mode of action and structureâ€“activity relationship studies of geobacillin I. Journal of Antibiotics, 2014, 67, 133-136.	2.0	22
70	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
71	Compound-gene interaction mapping reveals distinct roles for Staphylococcus aureus teichoic acids. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12510-12515.	7.1	84
72	Lipoprotein Activators Stimulate Escherichia coli Penicillin-Binding Proteins by Different Mechanisms. Journal of the American Chemical Society, 2014, 136, 52-55.	13.7	72

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73	Genes Contributing to Staphylococcus aureus Fitness in Abscess- and Infection-Related Ecologies. MBio, 2014, 5, e01729-14.	4.1	130
74	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
75	Microarray Discovery of New OGT Substrates: The Medulloblastoma Oncogene OTX2 Is O-GlcNAcylated. Journal of the American Chemical Society, 2014, 136, 4845-4848.	13.7	40
76	Moenomycin Resistance Mutations in Staphylococcus aureus Reduce Peptidoglycan Chain Length and Cause Aberrant Cell Division. ACS Chemical Biology, 2014, 9, 459-467.	3.4	54
77	Teichoic acid biosynthesis as an antibiotic target. Current Opinion in Microbiology, 2013, 16, 531-537.	5.1	87
78	HCF-1 Is Cleaved in the Active Site of O-GlcNAc Transferase. Science, 2013, 342, 1235-1239.	12.6	162
79	Wall Teichoic Acids of Gram-Positive Bacteria. Annual Review of Microbiology, 2013, 67, 313-336.	7.3	742
80	Discovery of Wall Teichoic Acid Inhibitors as Potential Anti-MRSA Î²-Lactam Combination Agents. Chemistry and Biology, 2013, 20, 272-284.	6.0	132
81	Forming Cross-Linked Peptidoglycan from Synthetic Gram-Negative Lipid II. Journal of the American Chemical Society, 2013, 135, 4632-4635.	13.7	48
82	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
83	Structural Insights into Oâ€GlcNAc Transferase. FASEB Journal, 2013, 27, 452.4.	0.5	0
84	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
85	Methicillin resistance in Staphylococcus aureus 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
86	Structural snapshots of the reaction coordinate for O-GlcNAc transferase. Nature Chemical Biology, 2012, 8, 966-968.	8.0	132
87	Primer Preactivation of Peptidoglycan Polymerases. Journal of the American Chemical Society, 2011, 133, 8528-8530.	13.7	33
88	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
89	Synthetic Lethal Compound Combinations Reveal a Fundamental Connection between Wall Teichoic Acid and Peptidoglycan Biosyntheses in Staphylococcus aureus. ACS Chemical Biology, 2011, 6, 106-116.	3.4	276
90	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

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91	Structure of human O-GlcNAc transferase and its complex with a peptide substrate. Nature, 2011, 469, 564-567.	27.8	385
92	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
93	Wall Teichoic Acid Function, Biosynthesis, and Inhibition. ChemBioChem, 2010, 11, 35-45.	2.6	327
94	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
95	Moenomycin family antibiotics: chemical synthesis, biosynthesis, and biological activity. Natural Product Reports, 2010, 27, 1594.	10.3	152
96	The Bacterial Cell Envelope. Cold Spring Harbor Perspectives in Biology, 2010, 2, a000414-a000414.	5.5	2,408
97	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
98	Studying a Cell Division Amidase Using Defined Peptidoglycan Substrates. Journal of the American Chemical Society, 2009, 131, 18230-18231.	13.7	26
99	Discovery of a Small Molecule that Blocks Wall Teichoic Acid Biosynthesis in Staphylococcus aureus. ACS Chemical Biology, 2009, 4, 875-883.	3.4	128
100	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
101	Late-Stage Polyribitol Phosphate Wall Teichoic Acid Biosynthesis in Staphylococcus aureus. Journal of Bacteriology, 2008, 190, 3046-3056.	2.2	92
102	Analysis of Glycan Polymers Produced by Peptidoglycan Glycosyltransferases. Journal of Biological Chemistry, 2007, 282, 31964-31971.	3.4	78
103	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
104	The Direction of Glycan Chain Elongation by Peptidoglycan Glycosyltransferases. Journal of the American Chemical Society, 2007, 129, 12674-12675.	13.7	82
105	Spatial and Temporal Organization of Peptidoglycan Biosynthesis. FASEB Journal, 2006, 20, A1472.	0.5	0
106	Chemistry and Biology of Ramoplanin:â€‰ A Lipoglycodepsipeptide with Potent Antibiotic Activity. Chemical Reviews, 2005, 105, 449-476.	47.7	150
107	Discovery ofO-GlcNAc Transferase Inhibitors. Journal of the American Chemical Society, 2005, 127, 14588-14589.	13.7	226
108	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

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109	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
110	Substrate analogues to study cell-wall biosynthesis and its inhibition. Current Opinion in Chemical Biology, 2002, 6, 786-793.	6.1	49
111	A New Structure for the Substrate-Binding Antibiotic Ramoplanin. Journal of the American Chemical Society, 2001, 123, 8640-8641.	13.7	38
112	Better Substrates for Bacterial Transglycosylases. Journal of the American Chemical Society, 2001, 123, 3155-3156.	13.7	158
113	The 1.9 Ã... crystal structure of Escherichia coli MurG, a membraneâ€associated glycosyltransferase involved in peptidoglycan biosynthesis. Protein Science, 2000, 9, 1045-1052.	7.6	243
114	The Kinetic Characterization ofEscherichiacoliMurG Using Synthetic Substrate Analogues. Journal of the American Chemical Society, 1999, 121, 8415-8426.	13.7	86
115	Substrate Synthesis and Activity Assay for MurG. Journal of the American Chemical Society, 1998, 120, 2484-2485.	13.7	81
116	O-GlcNAc transferase maintains metabolic homeostasis in response to CDK9 inhibition. Glycobiology, 0, , .	2.5	1