David Z Rudner

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Coupled, Circumferential Motions of the Cell Wall Synthesis Machinery and MreB Filaments in <i>B. subtilis</i>. Science, 2011, 333, 222-225.	12.6	505
2	Construction and Analysis of Two Genome-Scale Deletion Libraries for Bacillus subtilis. Cell Systems, 2017, 4, 291-305.e7.	6.2	457
3	SEDS proteins are a widespread family of bacterial cell wall polymerases. Nature, 2016, 537, 634-638.	27.8	448
4	The Program of Gene Transcription for a Single Differentiating Cell Type during Sporulation in Bacillus subtilis. PLoS Biology, 2004, 2, e328.	5.6	308
5	RacA, a Bacterial Protein That Anchors Chromosomes to the Cell Poles. Science, 2003, 299, 532-536.	12.6	287
6	Recruitment of SMC by ParB-parS Organizes the Origin Region and Promotes Efficient Chromosome Segregation. Cell, 2009, 137, 697-707.	28.9	275
7	<i>Bacillus subtilis</i> SMC complexes juxtapose chromosome arms as they travel from origin to terminus. Science, 2017, 355, 524-527.	12.6	267
8	Organization and segregation of bacterial chromosomes. Nature Reviews Genetics, 2013, 14, 191-203.	16.3	252
9	Condensin promotes the juxtaposition of DNA flanking its loading site in <i>Bacillus subtilis</i>. Genes and Development, 2015, 29, 1661-1675.	5.9	215
10	An experimentally supported model of the <i>Bacillus subtilis</i> global transcriptional regulatory network. Molecular Systems Biology, 2015, 11, 839.	7.2	186
11	ParB spreading requires DNA bridging. Genes and Development, 2014, 28, 1228-1238.	5.9	177
12	MurJ and a novel lipid II flippase are required for cell wall biogenesis in <i>Bacillus subtilis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6437-6442.	7.1	166
13	Protein Subcellular Localization in Bacteria. Cold Spring Harbor Perspectives in Biology, 2010, 2, a000307-a000307.	5.5	163
14	<scp>FtsEX</scp> is required for <scp>CwlO</scp> peptidoglycan hydrolase activity during cell wall elongation in <i><scp>B</scp>acillus subtilis</i>. Molecular Microbiology, 2013, 89, 1069-1083.	2.5	145
15	Evidence that subcellular localization of a bacterial membrane protein is achieved by diffusion and capture. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 8701-8706.	7.1	122
16	<i>Bacillus subtilis</i> chromosome organization oscillates between two distinct patterns. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12877-12882.	7.1	116
17	A sporulation membrane protein tethers the pro-sigma K processing enzyme to its inhibitor and dictates its subcellular localization. Genes and Development, 2002, 16, 1007-1018.	5.9	115
18	The ATPase SpoIIIE Transports DNA across Fused Septal Membranes during Sporulation in Bacillus subtilis. Cell, 2007, 131, 1301-1312.	28.9	112

#	Article	IF	Citations
19	Structure of the peptidoglycan polymerase RodA resolved by evolutionary coupling analysis. Nature, 2018, 556, 118-121.	27.8	110
20	Subcellular localization of a sporulation membrane protein is achieved through a network of interactions along and across the septum. Molecular Microbiology, 2005, 55, 1767-1781.	2.5	109
21	The SMC Condensin Complex Is Required for Origin Segregation in Bacillus subtilis. Current Biology, 2014, 24, 287-292.	3.9	109
22	RNA polymerases as moving barriers to condensin loop extrusion. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20489-20499.	7.1	105
23	Condensation and localization of the partitioning protein ParB on the bacterial chromosome. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8809-8814.	7.1	96
24	Defining a Centromere-like Element in Bacillus subtilis by Identifying the Binding Sites for the Chromosome-Anchoring Protein RacA. Molecular Cell, 2005, 17, 773-782.	9.7	93
25	Novel Secretion Apparatus Maintains Spore Integrity and Developmental Gene Expression in Bacillus subtilis. PLoS Genetics, 2009, 5, e1000566.	3.5	93
26	A highly coordinated cell wall degradation machine governs spore morphogenesis in <i>Bacillus subtilis</i>. Genes and Development, 2010, 24, 411-422.	5.9	91
27	Structural coordination of polymerization and crosslinking by a SEDSâ€“bPBP peptidoglycan synthase complex. Nature Microbiology, 2020, 5, 813-820.	13.3	91
28	Morphological Coupling in Development. Developmental Cell, 2001, 1, 733-742.	7.0	89
29	High-Throughput Genetic Screens Identify a Large and Diverse Collection of New Sporulation Genes in Bacillus subtilis. PLoS Biology, 2016, 14, e1002341.	5.6	87
30	SirA enforces diploidy by inhibiting the replication initiator DnaA during spore formation in <i>Bacillus subtilis</i>. Molecular Microbiology, 2009, 73, 963-974.	2.5	72
31	CozE is a member of the MreCD complex that directs cell elongation in Streptococcus pneumoniae. Nature Microbiology, 2017, 2, 16237.	13.3	70
32	InÂVivo Evidence for ATPase-Dependent DNA Translocation by the Bacillus subtilis SMC Condensin Complex. Molecular Cell, 2018, 71, 841-847.e5.	9.7	66
33	A Branched Pathway Governing the Activation of a Developmental Transcription Factor by Regulated Intramembrane Proteolysis. Molecular Cell, 2006, 23, 25-35.	9.7	63
34	SpoIIIE strips proteins off the DNA during chromosome translocation. Genes and Development, 2008, 22, 1786-1795.	5.9	63
35	Phosphorylation-dependent activation of the cell wall synthase PBP2a in <i>Streptococcus pneumoniae</i> by MacP. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2812-2817.	7.1	62
36	Homeostatic control of cell wall hydrolysis by the WalRK two-component signaling pathway in Bacillus subtilis. ELife, 2019, 8, .	6.0	52

#	Article	IF	Citations
37	Spatial organization of bacterial chromosomes. Current Opinion in Microbiology, 2014, 22, 66-72.	5.1	51
38	Nucleoid occlusion prevents cell division during replication fork arrest in Bacillus subtilis. Molecular Microbiology, 2010, 78, 866-882.	2.5	47
39	FisB mediates membrane fission during sporulation in <i>Bacillus subtilis</i>. Genes and Development, 2013, 27, 322-334.	5.9	47
40	A switch in surface polymer biogenesis triggers growth-phase-dependent and antibiotic-induced bacteriolysis. ELife, 2019, 8, .	6.0	47
41	The nucleoid occlusion factor Noc controls DNA replication initiation in Staphylococcus aureus. PLoS Genetics, 2017, 13, e1006908.	3.5	43
42	SpoIVB and CtpB Are Both Forespore Signals in the Activation of the Sporulation Transcription Factor Ïƒ K in Bacillus subtilis. Journal of Bacteriology, 2007, 189, 6021-6027.	2.2	37
43	SweC and SweD are essential co-factors of the FtsEX-CwlO cell wall hydrolase complex in Bacillus subtilis. PLoS Genetics, 2019, 15, e1008296.	3.5	37
44	SpoIIQ Anchors Membrane Proteins on Both Sides of the Sporulation Septum in Bacillus subtilis. Journal of Biological Chemistry, 2008, 283, 4975-4982.	3.4	34
45	A Second PDZ-Containing Serine Protease Contributes to Activation of the Sporulation Transcription Factor Ïƒ K in Bacillus subtilis. Journal of Bacteriology, 2003, 185, 6051-6056.	2.2	33
46	A two-step transport pathway allows the mother cell to nurture the developing spore in Bacillus subtilis. PLoS Genetics, 2017, 13, e1007015.	3.5	32
47	CtpB Assembles a Gated Protease Tunnel Regulating Cell-Cell Signaling during Spore Formation in Bacillus subtilis. Cell, 2013, 155, 647-658.	28.9	31
48	Peptidoglycan hydrolysis is required for assembly and activity of the transenvelope secretion complex during sporulation in <i><scp>B</scp>acillus subtilis</i>. Molecular Microbiology, 2013, 89, 1039-1052.	2.5	28
49	GerM is required to assemble the basal platform of the SpoIIIAâ€"SpoIIQ transenvelope complex during sporulation in <i>Bacillus subtilis</i>. Molecular Microbiology, 2016, 102, 260-273.	2.5	27
50	Barcoded microbial system for high-resolution object provenance. Science, 2020, 368, 1135-1140.	12.6	27
51	XerD unloads bacterial SMC complexes at the replication terminus. Molecular Cell, 2021, 81, 756-766.e8.	9.7	27
52	Saltâ€sensitivity of Ïƒ^H and Spo0A prevents sporulation of <scp><i>B</i></scp><i>acillus subtilis</i> at high osmolarity avoiding death during cellular differentiation. Molecular Microbiology, 2016, 100, 108-124.	2.5	25
53	A ring-shaped conduit connects the mother cell and forespore during sporulation in <i>Bacillus subtilis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11585-11590.	7.1	24
54	RefZ Facilitates the Switch from Medial to Polar Division during Spore Formation in Bacillus subtilis. Journal of Bacteriology, 2012, 194, 4608-4618.	2.2	23

#	Article	IF	Citations
55	The <i>Bacillus subtilis</i> germinant receptor GerA triggers premature germination in response to morphological defects during sporulation. Molecular Microbiology, 2017, 105, 689-704.	2.5	23
56	Dormant spores sense amino acids through the B subunits of their germination receptors. Nature Communications, 2021, 12, 6842.	12.8	22
57	Perturbations to engulfment trigger a degradative response that prevents cell-cell signalling during sporulation in Bacillus subtilis. Molecular Microbiology, 2007, 64, 500-511.	2.5	21
58	The SpoVA membrane complex is required for dipicolinic acid import during sporulation and export during germination. Genes and Development, 2022, 36, 634-646.	5.9	17
59	Chromosome Segregation and Peptidoglycan Remodeling Are Coordinated at a Highly Stabilized Septal Pore to Maintain Bacterial Spore Development. Developmental Cell, 2021, 56, 36-51.e5.	7.0	13
60	Evidence that regulation of intramembrane proteolysis is mediated by substrate gating during sporulation in Bacillus subtilis. PLoS Genetics, 2018, 14, e1007753.	3.5	11
61	Genetic Evidence for Signal Transduction within the Bacillus subtilis GerA Germinant Receptor. Journal of Bacteriology, 2022, 204, JB0047021.	2.2	11
62	The WalR-WalK Signaling Pathway Modulates the Activities of both CwlO and LytE through Control of the Peptidoglycan Deacetylase PdaC in Bacillus subtilis. Journal of Bacteriology, 2022, 204, JB0053321.	2.2	11
63	SwsB and SafA Are Required for CwlJ-Dependent Spore Germination in <i>Bacillus subtilis</i>. Journal of Bacteriology, 2020, 202, .	2.2	10
64	FisB relies on homo-oligomerization and lipid binding to catalyze membrane fission in bacteria. PLoS Biology, 2021, 19, e3001314.	5.6	9
65	Structural characterization of the sporulation protein GerM from Bacillus subtilis. Journal of Structural Biology, 2018, 204, 481-490.	2.8	8
66	A dynamic, ring-forming MucB / RseB-like protein influences spore shape in Bacillus subtilis. PLoS Genetics, 2020, 16, e1009246.	3.5	5
67	Respiratory chain components are required for peptidoglycan recognition protein-induced thiol depletion and killing in Bacillus subtilis and Escherichia coli. Scientific Reports, 2021, 11, 64.	3.3	3
68	WhyD tailors surface polymers to prevent premature bacteriolysis and direct cell elongation in Streptococcus pneumoniae. ELife, 2022, 11, .	6.0	3
69	Intercompartmental Signal Transduction during Sporulation in <i>Bacillus subtilis</i>. , 0, , 1-12.		0