Mark J Buttner

List of Publications by Year
in descending order

120 papers	10,684 citations	22146 59 h-index	33889 99 g-index
124 all docs	124 docs citations	124 times ranked	5346 citing authors

#	Article	IF	Citations
1	Streptomyces morphogenetics: dissecting differentiation in a filamentous bacterium. Nature Reviews Microbiology, 2009, 7, 36-49.	28.6	597
2	Analysis of the Streptomyces coelicolor sigE gene reveals the existence of a subfamily of eubacterial RNA polymerase sigma factors involved in the regulation of extracytoplasmic functions.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 7573-7577.	7.1	499
3	Construction and characterisation of a series of multi-copy promoter-probe plasmid vectors for Streptomyces using the aminoglycoside phosphotransferase gene from Tn5 as indicator. Molecular Genetics and Genomics, 1986, 203, 468-478.	2.4	405
4	Evidence that the Extracytoplasmic Function Sigma Factor Ï, ^E Is Required for Normal Cell Wall Structure in <i>Streptomyces coelicolor</i> A3(2). Journal of Bacteriology, 1999, 181, 204-211.	2.2	395
5	From The Cover: The SapB morphogen is a lantibiotic-like peptide derived from the product of the developmental gene ramS in Streptomyces coelicolor. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 11448-11453.	7.1	286
6	Thiol-Based Regulatory Switches. Annual Review of Genetics, 2003, 37, 91-121.	7.6	275
7	RsrA, an anti-sigma factor regulated by redox change. EMBO Journal, 1999, 18, 4292-4298.	7.8	224
8	The chaplins: a family of hydrophobic cell-surface proteins involved in aerial mycelium formation in Streptomyces coelicolor. Genes and Development, 2003, 17, 1727-1740.	5.9	222
9	Tetrameric c-di-GMP Mediates Effective Transcription Factor Dimerization to Control Streptomyces Development. Cell, 2014, 158, 1136-1147.	28.9	219
10	The developmental fate of S. coelicolor hyphae depends upon a gene product homologous with the motility Ïƒ factor of B. subtilis. Cell, 1989, 59, 133-143.	28.9	194
11	sigma R, an RNA polymerase sigma factor that modulates expression of the thioredoxin system in response to oxidative stress in Streptomyces coelicolor A3(2). EMBO Journal, 1998, 17, 5776-5782.	7.8	194
12	Genes essential for morphological development and antibiotic production in <i>Streptomyces coelicolor</i> are targets of BldD during vegetative growth. Molecular Microbiology, 2010, 78, 361-379.	2.5	193
13	Cross-regulation among disparate antibiotic biosynthetic pathways of Streptomyces coelicolor. Molecular Microbiology, 2005, 58, 1276-1287.	2.5	182
14	Defining the disulphide stress response in Streptomyces coelicolor A3(2): identification of the sigmaR regulon. Molecular Microbiology, 2001, 42, 1007-1020.	2.5	171
15	Cloning, disruption, and transcriptional analysis of three RNA polymerase sigma factor genes of Streptomyces coelicolor A3(2). Journal of Bacteriology, 1990, 172, 3367-3378.	2.2	164
16	The agarase gene (dagA) of Streptomyces coelicolor A3(2): nucleotide sequence and transcriptional analysis. Molecular Genetics and Genomics, 1987, 209, 101-109.	2.4	157
17	At least three different RNA polymerase holoenzymes direct transcription of the agarase gene (dagA) of streptomyces coelicolor A3(2). Cell, 1988, 52, 599-607.	28.9	153
18	c-di-GMP signalling and the regulation of developmental transitions in streptomycetes. Nature Reviews Microbiology, 2015, 13, 749-760.	28.6	150

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19	Sensing and responding to diverse extracellular signals? Analysis of the sensor kinases and response regulators of Streptomyces coelicolor A3(2). Microbiology (United Kingdom), 2004, 150, 2795-2806.	1.8	147
20	Developmental Regulation of Transcription of <i>whiE</i> , a Locus Specifying the Polyketide Spore Pigment in <i>Streptomyces coelicolor</i> A3(2). Journal of Bacteriology, 1998, 180, 2515-2521.	2.2	142
21	The Role of the Novel Fem Protein VanK in Vancomycin Resistance in Streptomyces coelicolor. Journal of Biological Chemistry, 2005, 280, 13055-13061.	3.4	137
22	Characterization of an inducible vancomycin resistance system in Streptomyces coelicolor reveals a novel gene (vanK) required for drug resistance. Molecular Microbiology, 2004, 52, 1107-1121.	2.5	136
23	The vancomycin resistance VanRS twoâ€component signal transduction system of <i>Streptomyces coelicolor</i>. Molecular Microbiology, 2006, 59, 923-935.	2.5	135
24	A vancomycin photoprobe identifies the histidine kinase VanSsc as a vancomycin receptor. Nature Chemical Biology, 2010, 6, 327-329.	8.0	135
25	Ï,BldN, an Extracytoplasmic Function RNA Polymerase Sigma Factor Required for Aerial Mycelium Formation in Streptomyces coelicolor A3(2). Journal of Bacteriology, 2000, 182, 4606-4616.	2.2	132
26	Mechanistic Insight into the Nitrosylation of the [4Feâ^'4S] Cluster of WhiB-like Proteins. Journal of the American Chemical Society, 2011, 133, 1112-1121.	13.7	124
27	Genes Required for Aerial Growth, Cell Division, and Chromosome Segregation Are Targets of WhiA before Sporulation in Streptomyces venezuelae. MBio, 2013, 4, e00684-13.	4.1	121
28	The positions of the sigma-factor genes, whiG and sigF, in the hierarchy controlling the development of spore chains in the aerial hyphae of Streptomyces coelicolor A3(2). Molecular Microbiology, 1996, 21, 593-603.	2.5	120
29	Mutational analysis of RsrA, a zinc-binding anti-sigma factor with a thiol-disulphide redox switch. Molecular Microbiology, 2001, 39, 1036-1047.	2.5	115
30	BldD is a direct regulator of key developmental genes in Streptomyces coelicolor A3(2). Molecular Microbiology, 2001, 40, 257-269.	2.5	115
31	A new RNA polymerase sigma factor, ?Fis required for the late stages of morphological differentiation in Streptomyces spp.. Molecular Microbiology, 1995, 17, 37-48.	2.5	114
32	A rare leucine codon in adpA is implicated in the morphological defect of bldA mutants of Streptomyces coelicolor. Molecular Microbiology, 2003, 50, 475-486.	2.5	114
33	Redox control in actinobacteria. Biochimica Et Biophysica Acta - General Subjects, 2008, 1780, 1201-1216.	2.4	113
34	A signal transduction system in Streptomyces coelicolor that activates the expression of a putative cell wall glycan operon in response to vancomycin and other cell wall-specific antibiotics. Molecular Microbiology, 2002, 44, 1199-1211.	2.5	107
35	Glucose repression in Streptomyces coelicolor A3(2): a likely regulatory role for glucose kinase. Molecular Genetics and Genomics, 1994, 244, 135-143.	2.4	106
36	Expression of the chaplin and rodlin hydrophobic sheath proteins in <i>Streptomyces venezuelae</i> is controlled by Ïƒ^{BldN} and a cognate antiâ€sigma factor, RsbN. Molecular Microbiology, 2012, 84, 1033-1049.	2.5	106

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37	WhiD and WhiB, Homologous Proteins Required for Different Stages of Sporulation in Streptomyces coelicolor A3(2). Journal of Bacteriology, 2000, 182, 1286-1295.	2.2	105
38	Vancomycin Resistance VanS/VanR Two-Component Systems. Advances in Experimental Medicine and Biology, 2008, 631, 200-213.	1.6	105
39	Evidence That the Streptomyces Developmental Protein WhiD, a Member of the WhiB Family, Binds a [4Fe-4S] Cluster. Journal of Biological Chemistry, 2005, 280, 8309-8315.	3.4	103
40	The Ser/Thr protein kinase AfsK regulates polar growth and hyphal branching in the filamentous bacteria <i>Streptomyces</i>. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E2371-9.	7.1	103
41	Developmentally regulated volatiles geosmin and 2-methylisoborneol attract a soil arthropod to Streptomyces bacteria promoting spore dispersal. Nature Microbiology, 2020, 5, 821-829.	13.3	102
42	A developmentally regulated gene encoding a repressorâ€like protein is essential for sporulation in Streptomyces coelicolor A3(2). Molecular Microbiology, 1998, 29, 343-357.	2.5	99
43	A putative two-component signal transduction system regulates sigmaE, a sigma factor required for normal cell wall integrity in Streptomyces coelicolor A3(2). Molecular Microbiology, 1999, 33, 97-107.	2.5	98
44	A connection between stress and development in the multicellular prokaryote Streptomyces coelicolor A3(2). Molecular Microbiology, 2001, 40, 804-814.	2.5	98
45	The Role of Zinc in the Disulphide Stress-regulated Anti-sigma Factor RsrA from Streptomyces coelicolor. Journal of Molecular Biology, 2003, 333, 461-472.	4.2	98
46	Initiation of aerial mycelium formation in Streptomyces. Current Opinion in Microbiology, 1998, 1, 656-662.	5.1	96
47	Regulation of apical growth and hyphal branching in Streptomyces. Current Opinion in Microbiology, 2012, 15, 737-743.	5.1	92
48	Isolation and characterization of the major vegetative RNA polymerase of Streptomyces coelicolor A3(2); renaturation of a sigma subunit using GroEL. Molecular Microbiology, 1992, 6, 1133-1139.	2.5	84
49	Generation of a non-sporulating strain of Streptomyces coelicolor A3(2) by the manipulation of a developmentally controlled ftsZ promoter. Molecular Microbiology, 2000, 38, 737-749.	2.5	84
50	SapB and the chaplins: connections between morphogenetic proteins in Streptomyces coelicolor. Molecular Microbiology, 2007, 64, 602-613.	2.5	84
51	Response Regulator Heterodimer Formation Controls a Key Stage in Streptomyces Development. PLoS Genetics, 2014, 10, e1004554.	3.5	82
52	A Crystal Structure of the Bifunctional Antibiotic Simocyclinone D8, Bound to DNA Gyrase. Science, 2009, 326, 1415-1418.	12.6	81
53	Genome-Wide Chromatin Immunoprecipitation Sequencing Analysis Shows that WhiB Is a Transcription Factor That Cocontrols Its Regulon with WhiA To Initiate Developmental Cell Division in <i>Streptomyces</i>. MBio, 2016, 7, e00523-16.	4.1	81
54	Phage P1-Derived Artificial Chromosomes Facilitate Heterologous Expression of the FK506 Gene Cluster. PLoS ONE, 2013, 8, e69319.	2.5	80

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55	RNA polymerase heterogeneity in Streptomyces coelicolor A3(2). Molecular Microbiology, 1989, 3, 1653-1659.	2.5	79
56	Different alleles of the response regulator gene bldM arrest Streptomyces coelicolor development at distinct stages. Molecular Microbiology, 2002, 36, 1265-1278.	2.5	75
57	Characterization of [4Fe-4S]-Containing and Cluster-Free Forms of <i>Streptomyces</i> WhiD. Biochemistry, 2009, 48, 12252-12264.	2.5	73
58	Two dynamin-like proteins stabilize FtsZ rings during <i>Streptomyces</i> sporulation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6176-E6183.	7.1	70
59	Specialized osmotic stress response systems involve multiple SigB-like sigma factors in Streptomyces coelicolor. Molecular Microbiology, 2003, 47, 699-714.	2.5	68
60	Assignment of the Zinc Ligands in RsrA, a Redox-Sensing ZAS Protein from Streptomyces coelicolor. Biochemistry, 2006, 45, 8294-8300.	2.5	62
61	The crystal structure of the TetR family transcriptional repressor SimR bound to DNA and the role of a flexible N-terminal extension in minor groove binding. Nucleic Acids Research, 2011, 39, 9433-9447.	14.5	61
62	Identification and Structure of the Anti-sigma Factor-binding Domain of the Disulphide-stress Regulated Sigma Factor ÏƒR from Streptomyces coelicolor. Journal of Molecular Biology, 2002, 323, 225-236.	4.2	59
63	c-di-GMP Arms an Anti-Ïƒ to Control Progression of Multicellular Differentiation in Streptomyces. Molecular Cell, 2020, 77, 586-599.e6.	9.7	58
64	The Ïƒ E Cell Envelope Stress Response of Streptomyces coelicolor Is Influenced by a Novel Lipoprotein, CseA. Journal of Bacteriology, 2006, 188, 7222-7229.	2.2	57
65	Function and Redundancy of the Chaplin Cell Surface Proteins in Aerial Hypha Formation, Rodlet Assembly, and Viability in <i>Streptomyces coelicolor</i>. Journal of Bacteriology, 2008, 190, 5879-5889.	2.2	55
66	SmeA, a small membrane protein with multiple functions in <i>Streptomyces</i> sporulation including targeting of a SpoIIIE/FtsKâ€like protein to cell division septa. Molecular Microbiology, 2007, 65, 1458-1473.	2.5	54
67	DevA, a GntR-Like Transcriptional Regulator Required for Development in Streptomyces coelicolor. Journal of Bacteriology, 2006, 188, 5014-5023.	2.2	51
68	Identification and Characterization of CdgB, a Diguanylate Cyclase Involved in Developmental Processes in Streptomyces coelicolor. Journal of Bacteriology, 2011, 193, 3100-3108.	2.2	49
69	Construction and characterization of Streptomyces coelicolor A3(2) mutants that are multiply deficient in the nonessential hrd-encoded RNA polymerase sigma factors. Journal of Bacteriology, 1992, 174, 5165-5167.	2.2	48
70	When is a transcription factor a NAP?. Current Opinion in Microbiology, 2020, 55, 26-33.	5.1	48
71	New Sporulation Loci in Streptomyces coelicolor A3(2). Journal of Bacteriology, 1999, 181, 5419-5425.	2.2	47
72	RNA polymerase-DNA interactions in Streptomyces. Journal of Molecular Biology, 1985, 185, 177-188.	4.2	44

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73	Specific peptide-activated proteolytic cleavage of Escherichia coli elongation factor Tu. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 2891-2895.	7.1	44
74	Coupling of the biosynthesis and export of the DNA gyrase inhibitor simocyclinone in <i>Streptomyces antibioticus</i>. Molecular Microbiology, 2009, 72, 1462-1474.	2.5	44
75	Sigmaâ€E is required for the production of the antibiotic actinomycin in Streptomyces antibioticus. Molecular Microbiology, 1997, 23, 169-178.	2.5	43
76	Mechanistic Basis of Branch-Site Selection in Filamentous Bacteria. PLoS Computational Biology, 2012, 8, e1002423.	3.2	41
77	Discovery of a family of Î³-aminobutyrate ureas via rational derepression of a silent bacterial gene cluster. Chemical Science, 2014, 5, 86-89.	7.4	40
78	Evolutionary Relationships among Actinophages and a Putative Adaptation for Growth in Streptomyces spp. Journal of Bacteriology, 2013, 195, 4924-4935.	2.2	37
79	The Streptomyces master regulator BldD binds c-di-GMP sequentially to create a functional BldD2-(c-di-GMP)4 complex. Nucleic Acids Research, 2017, 45, 6923-6933.	14.5	37
80	The bldC Developmental Locus of Streptomyces coelicolor Encodes a Member of a Family of Small DNA-Binding Proteins Related to the DNA-Binding Domains of the MerR Family. Journal of Bacteriology, 2005, 187, 716-728.	2.2	36
81	BldC Delays Entry into Development To Produce a Sustained Period of Vegetative Growth in Streptomyces venezuelae. MBio, 2019, 10, .	4.1	36
82	Two promoters for the whiB sporulation gene of Streptomyces coelicolor A3(2) and their activities in relation to development. Journal of Bacteriology, 1992, 174, 6215-6220.	2.2	35
83	Fluorescence Time-lapse Imaging of the Complete S. venezuelae Life Cycle Using a Microfluidic Device. Journal of Visualized Experiments, 2016, , 53863.	0.3	35
84	Two promoters from the Streptomyces plasmid pIJ101 and their expression in Escherichia coli. Gene, 1987, 51, 179-186.	2.2	34
85	Structures of the TetR-like Simocyclinone Efflux Pump Repressor, SimR, and the Mechanism of Ligand-Mediated Derepression. Journal of Molecular Biology, 2011, 408, 40-56.	4.2	32
86	Expansion and re-classification of the extracytoplasmic function (ECF) Ïƒ factor family. Nucleic Acids Research, 2021, 49, 986-1005.	14.5	32
87	Deletion of DNA lying close to the glkA locus induces ectopic sporulation in Streptomyces coelicolor A3(2). Molecular Microbiology, 1995, 17, 221-230.	2.5	31
88	The Gene Encoding RNase III in <i>Streptomyces coelicolor</i> Is Transcribed during Exponential Phase and Is Required for Antibiotic Production and for Proper Sporulation. Journal of Bacteriology, 2008, 190, 4079-4083.	2.2	30
89	Multicellular Development in<i>Streptomyces</i>. , 0, , 419-438.		30
90	The Streptomyces coelicolor sporulation-specific ÏƒWhiG form of RNA polymerase transcribes a gene encoding a ProX-like protein that is dispensable for sporulation. Gene, 1998, 212, 137-146.	2.2	29

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91	Identification and characterization of the mre gene region of Streptomyces coelicolor A3(2). Molecular Genetics and Genomics, 2000, 263, 1053-1060.	2.4	28
92	Defining the regulon of genes controlled by Ïƒ^E, a key regulator of the cell envelope stress response in <i>Streptomyces coelicolor</i>. Molecular Microbiology, 2019, 112, 461-481.	2.5	27
93	The MerR-like protein BldC binds DNA direct repeats as cooperative multimers to regulate Streptomyces development. Nature Communications, 2018, 9, 1139.	12.8	26
94	Translational Control of the SigR-Directed Oxidative Stress Response in Streptomyces via IF3-Mediated Repression of a Noncanonical GTC Start Codon. MBio, 2017, 8, .	4.1	25
95	The Streptomyces coelicolor Developmental Transcription Factor Ïƒ BldN Is Synthesized as a Proprotein. Journal of Bacteriology, 2003, 185, 2338-2345.	2.2	24
96	Characterisation of Streptomyces spheroides NovW and revision of its functional assignment to a dTDP-6-deoxy-d-xylo-4-hexulose 3-epimerase. Chemical Communications, 2006, , 1079.	4.1	23
97	Genetic analysis of the ?C31 -specific phage growth limitation (Pgl) system of Streptomyces coelicolor A3(2). Molecular Microbiology, 1993, 7, 329-336.	2.5	22
98	Multiâ€layered inhibition of <i>Streptomyces</i> development: BldO is a dedicated repressor of <i>whiB</i>. Molecular Microbiology, 2017, 104, 700-711.	2.5	20
99	Characterization of a gene conferring bialaphos resistance in Streptomyces coelicolor A3(2). Gene, 1991, 104, 39-45.	2.2	19
100	The 1.6-Ã… resolution crystal structure of NovW: A 4-keto-6-deoxy sugar epimerase from the novobiocin biosynthetic gene cluster of Streptomyces spheroides. Proteins: Structure, Function and Bioinformatics, 2006, 63, 261-265.	2.6	18
101	Discovery of the extracytoplasmic function Ïƒ factors. Molecular Microbiology, 2019, 112, 348-355.	2.5	18
102	Transcription from the P1 promoters of Micromonospora echinospora in the absence of native upstream DNA sequences. Journal of Bacteriology, 1989, 171, 6503-6510.	2.2	16
103	Characterization of the rpoC gene of Streptomyces coelicolor A3(2) and its use to develop a simple and rapid method for the purification of RNA polymerase. Gene, 1997, 196, 31-42.	2.2	15
104	Determination of Phosphorylation Sites in the DivIVA Cytoskeletal Protein of <i><i>Streptomyces coelicolor</i></i> by Targeted LCâ€"MS/MS. Journal of Proteome Research, 2013, 12, 4187-4192.	3.7	14
105	Streptomyces venezuelae NRRL B-65442: genome sequence of a model strain used to study morphological differentiation in filamentous actinobacteria. Journal of Industrial Microbiology and Biotechnology, 2021, , .	3.0	14
106	A sporulationâ€specific, <scp><i>sigF</i></scp>â€dependent protein, <scp>SspA</scp>, affects septum positioning in <i><scp>S</scp>treptomyces coelicolor</i>. Molecular Microbiology, 2014, 91, 363-380.	2.5	11
107	Evolution of a Ïƒâ€"(c-di-GMP)â€"anti-Ïƒ switch. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	11
108	The crystal structure of the RsbNâ€"ÏƒBldN complex from Streptomyces venezuelae defines a new structural class of anti-Ïƒ factor. Nucleic Acids Research, 2018, 46, 7405-7417.	14.5	10

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109	Interaction of the Streptomyces Wbl protein WhiD with the principal sigma factor ÏƒHrdB depends on the WhiD [4Fe-4S] cluster. Journal of Biological Chemistry, 2020, 295, 9752-9765.	3.4	10
110	Substrate-Assisted Catalysis in Polyketide Reduction Proceeds via a Phenolate Intermediate. Cell Chemical Biology, 2016, 23, 1091-1097.	5.2	9
111	The oligoribonuclease gene inStreptomyces coelicoloris not transcriptionally or translationally coupled toadpA, a keybldAtarget. FEMS Microbiology Letters, 2008, 286, 60-65.	1.8	8
112	SimC7 Is a Novel NAD(P)H-Dependent Ketoreductase Essential for the Antibiotic Activity of the DNA Gyrase Inhibitor Simocyclinone. Journal of Molecular Biology, 2015, 427, 2192-2204.	4.2	7
113	Structural insights into simocyclinone as an antibiotic, effector ligand and substrate. FEMS Microbiology Reviews, 2018, 42, .	8.6	7
114	Actinoplanes Swims into the Molecular Age. Journal of Bacteriology, 2017, 199, .	2.2	4
115	Crystallization and preliminary X-ray studies on the putative dTDP sugar epimerase NovW from the novobiocin biosynthetic cluster ofStreptomyces spheroides. Acta Crystallographica Section D: Biological Crystallography, 2003, 59, 1507-1509.	2.5	3
116	Growth and development. Current Opinion in Microbiology, 2004, 7, 561-564.	5.1	2
117	Crystallization and preliminary X-ray analysis of the TetR-like efflux pump regulator SimR. Acta Crystallographica Section F: Structural Biology Communications, 2011, 67, 307-309.	0.7	2
118	A signal transduction system in <i>Streptomyces coelicolor </i>that activates expression of a putative cell wall glycan operon in response to vancomycin and other cell wallâ€specific antibiotics. Molecular Microbiology, 2008, 69, 1069-1069.	2.5	1
119	The Ïƒ E Cell Envelope Stress Response of Streptomyces coelicolor Is Influenced by a Novel Lipoprotein, CseA. Journal of Bacteriology, 2008, 190, 6037-6037.	2.2	0
120	Sensing and Responding to Cell Envelope Stress in Streptomyces coelicolor.. Nihon Hosenkin Gakkai Shi = Actinomycetologica, 2002, 16, 41-47.	0.3	0