Jon Beckwith

List of Publications by Year
in descending order

120 papers	12,559 citations	26630 56 h-index	24982 109 g-index
126 all docs	126 docs citations	126 times ranked	7213 citing authors

#	Article	IF	Citations
1	Identification of a protein required for disulfide bond formation in vivo. Cell, 1991, 67, 581-589.	28.9	977
2	The Role of the Thioredoxin and Glutaredoxin Pathways in Reducing Protein Disulfide Bonds in the Escherichia coliCytoplasm. Journal of Biological Chemistry, 1997, 272, 15661-15667.	3.4	562
3	E. coli mutant pleiotropically defective in the export of secreted proteins. Cell, 1981, 25, 765-772.	28.9	556
4	Analysis of the regulation of Escherichia coli alkaline phosphatase synthesis using deletions and Ï†80 transducing phages. Journal of Molecular Biology, 1975, 96, 307-316.	4.2	514
5	Protein Disulfide Bond Formation in Prokaryotes. Annual Review of Biochemistry, 2003, 72, 111-135.	11.1	494
6	Protein localization in E. coli: Is there a common step in the secretion of periplasmic and outer-membrane proteins?. Cell, 1981, 24, 707-717.	28.9	425
7	Localization of FtsI (PBP3) to the Septal Ring Requires Its Membrane Anchor, the Z Ring, FtsA, FtsQ, and FtsL. Journal of Bacteriology, 1999, 181, 508-520.	2.2	356
8	Diverse Paths to Midcell: Assembly of the Bacterial Cell Division Machinery. Current Biology, 2005, 15, R514-R526.	3.9	353
9	Mutations which alter the function of the signal sequence of the maltose binding protein of Escherichia coli. Nature, 1980, 285, 78-81.	27.8	307
10	Roles of Thiol-Redox Pathways in Bacteria. Annual Review of Microbiology, 2001, 55, 21-48.	7.3	302
11	Mutations in a new chromosomal gene of Escherichia coli K-12, pcnB, reduce plasmid copy number of pBR322 and its derivatives. Molecular Genetics and Genomics, 1986, 205, 285-290.	2.4	266
12	Bridge over Troubled Waters. Cell, 1999, 96, 751-753.	28.9	254
13	Mutations that alter the DNA sequence specificity of the catabolite gene activator protein of E. coli. Nature, 1984, 311, 232-235.	27.8	252
14	Bacterial species exhibit diversity in their mechanisms and capacity for protein disulfide bond formation. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 11933-11938.	7.1	213
15	Snapshots of DsbA in Action: Detection of Proteins in the Process of Oxidative Folding. Science, 2004, 303, 534-537.	12.6	203
16	Transmembrane Electron Transfer by the Membrane Protein DsbD Occurs via a Disulfide Bond Cascade. Cell, 2000, 103, 769-779.	28.9	188
17	The DsbA Signal Sequence Directs Efficient, Cotranslational Export of Passenger Proteins to the <i>Escherichia coli</i> Periplasm via the Signal Recognition Particle Pathway. Journal of Bacteriology, 2003, 185, 5706-5713.	2.2	183
18	Genetic analysis of the membrane insertion and topology of MalF, a cytoplasmic membrane protein of Escherichia coli. Journal of Molecular Biology, 1988, 200, 501-511.	4.2	177

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19	NMR Solution Structure of the Integral Membrane Enzyme DsbB: Functional Insights into DsbB-Catalyzed Disulfide Bond Formation. Molecular Cell, 2008, 31, 896-908.	9.7	171
20	FtsQ, FtsL and FtsI require FtsK, but not FtsN, for co-localization with FtsZ during Escherichia coli cell division. Molecular Microbiology, 2001, 42, 395-413.	2.5	170
21	Towards Single-Copy Gene Expression Systems Making Gene Cloning Physiologically Relevant: Lambda InCh, a Simple Escherichia coli Plasmid-Chromosome Shuttle System. Journal of Bacteriology, 2000, 182, 842-847.	2.2	165
22	A complex of the <i>Escherichia coli</i> cell division proteins FtsL, FtsB and FtsQ forms independently of its localization to the septal region. Molecular Microbiology, 2004, 52, 1315-1327.	2.5	162
23	Escherichia coli mutants accumulating the precursor of a secreted protein in the cytoplasm. Nature, 1979, 277, 538-541.	27.8	151
24	The bonds that tie: Catalyzed disulfide bond formation. Cell, 1993, 74, 769-771.	28.9	151
25	Production of Functional Single-Chain Fv Antibodies in the Cytoplasm of Escherichia coli. Journal of Molecular Biology, 2002, 320, 1-10.	4.2	139
26	Thioredoxin 2 Is Involved in the Oxidative Stress Response inEscherichia coli. Journal of Biological Chemistry, 2000, 275, 2505-2512.	3.4	132
27	How many membrane proteins are there?. Protein Science, 1998, 7, 201-205.	7.6	128
28	Use of Thioredoxin as a Reporter To Identify a Subset of Escherichia coli Signal Sequences That Promote Signal Recognition Particle-Dependent Translocation. Journal of Bacteriology, 2005, 187, 2983-2991.	2.2	128
29	FtsL, an Essential Cytoplasmic Membrane Protein Involved in Cell Division in <i>Escherichia coli</i>. Journal of Bacteriology, 1992, 174, 7717-7728.	2.2	126
30	Premature targeting of a cell division protein to midcell allows dissection of divisome assembly in Escherichia coli. Genes and Development, 2005, 19, 127-137.	5.9	123
31	Assembly of cell division proteins at the E. coli cell center. Current Opinion in Microbiology, 2002, 5, 553-557.	5.1	122
32	The Thioredoxin Superfamily: Redundancy, Specificity, and Gray-Area Genomics. Journal of Bacteriology, 1999, 181, 1375-1379.	2.2	122
33	A novel regulatory mechanism couples deoxyribonucleotide synthesis and DNA replication in Escherichia coli. EMBO Journal, 2006, 25, 1137-1147.	7.8	121
34	Conversion of a Peroxiredoxin into a Disulfide Reductase by a Triplet Repeat Expansion. Science, 2001, 294, 158-160.	12.6	120
35	Mechanisms of Oxidative Protein Folding in the Bacterial Cell Envelope. Antioxidants and Redox Signaling, 2010, 13, 1231-1246.	5.4	120
36	Disulfide bond formation in prokaryotes. Nature Microbiology, 2018, 3, 270-280.	13.3	120

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37	Premature targeting of cell division proteins to midcell reveals hierarchies of protein interactions involved in divisome assembly. Molecular Microbiology, 2006, 61, 33-45.	2.5	119
38	Localization of the Escherichia coli cell division protein FtsI (PBP3) to the division site and cell pole. Molecular Microbiology, 1997, 25, 671-681.	2.5	118
39	Septal Localization of FtsQ, an Essential Cell Division Protein in <i>Escherichia coli</i>. Journal of Bacteriology, 1999, 181, 521-530.	2.2	118
40	The disulfide bond isomerase DsbC is activated by an immunoglobulin-fold thiol oxidoreductase: crystal structure of the DsbC-DsbDalpha complex. EMBO Journal, 2002, 21, 4774-4784.	7.8	117
41	The Nonconsecutive Disulfide Bond of Escherichia coli Phytase (AppA) Renders It Dependent on the Protein-disulfide Isomerase, DsbC. Journal of Biological Chemistry, 2005, 280, 11387-11394.	3.4	114
42	IcsA, a polarly localized autotransporter with an atypical signal peptide, uses the Sec apparatus for secretion, although the Sec apparatus is circumferentially distributed. Molecular Microbiology, 2003, 50, 45-60.	2.5	113
43	Disulfide bond formation in prokaryotes: History, diversity and design. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2014, 1844, 1402-1414.	2.3	107
44	Rapid Î2-lactam-induced lysis requires successful assembly of the cell division machinery. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21872-21877.	7.1	106
45	The topological analysis of integral cytoplasmic membrane proteins. Journal of Membrane Biology, 1993, 132, 1-11.	2.1	102
46	Detecting Folding Intermediates of a Protein as It Passes through the Bacterial Translocation Channel. Cell, 2009, 138, 1164-1173.	28.9	102
47	Four cysteines of the membrane protein DsbB act in concert to oxidize its substrate DsbA. EMBO Journal, 2002, 21, 2354-2363.	7.8	96
48	Electron Avenue. Cell, 1999, 99, 117-119.	28.9	88
49	Localization of FtsL to the Escherichia coli septal ring. Molecular Microbiology, 1999, 31, 725-737.	2.5	80
50	The Sec-dependent pathway. Research in Microbiology, 2013, 164, 497-504.	2.1	79
51	Evolutionary domain fusion expanded the substrate specificity of the transmembrane electron transporter DsbD. EMBO Journal, 2002, 21, 3960-3969.	7.8	78
52	<i>In Vivo</i>Requirement for Glutaredoxins and Thioredoxins in the Reduction of the Ribonucleotide Reductases of<i>Escherichia coli</i>. Antioxidants and Redox Signaling, 2006, 8, 735-742.	5.4	72
53	Direction of Transcription of a Regulatory Gene in E. coli. Nature, 1968, 220, 1287-1290.	27.8	71
54	The product of gene secC is involved in the synthesis of exported proteins in E. coli. Cell, 1984, 38, 211-217.	28.9	65

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55	Importance of Redox Potential for the in Vivo Function of the Cytoplasmic Disulfide Reductant Thioredoxin from Escherichia coli. Journal of Biological Chemistry, 1999, 274, 25254-25259.	3.4	65
56	Twin Studies of Political Behavior: Untenable Assumptions?. Perspectives on Politics, 2008, 6, 785-791.	0.3	62
57	Interactions of glutaredoxins, ribonucleotide reductase, and components of the DNA replication system of Escherichia coli. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7439-7444.	7.1	59
58	Inhibition of bacterial disulfide bond formation by the anticoagulant warfarin. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 297-301.	7.1	58
59	Signal sequence mutations disrupt feedback between secretion of an exported protein and its synthesis in E. coli. Nature, 1984, 308, 863-864.	27.8	57
60	A New Family of Membrane Electron Transporters and Its Substrates, Including a New Cell Envelope Peroxiredoxin, Reveal a Broadened Reductive Capacity of the Oxidative Bacterial Cell Envelope. MBio, 2012, 3, .	4.1	57
61	The use of extragenic suppressors to define genes involved in protein export in Escherichia coli. Molecular Genetics and Genomics, 1984, 196, 24-27.	2.4	55
62	On the Functional Interchangeability, Oxidant versus Reductant, of Members of the Thioredoxin Superfamily. Journal of Bacteriology, 2000, 182, 723-727.	2.2	52
63	Multiple Interaction Domains in FtsL, a Protein Component of the Widely Conserved Bacterial FtsLBQ Cell Division Complex. Journal of Bacteriology, 2010, 192, 2757-2768.	2.2	52
64	Divisome under Construction: Distinct Domains of the Small Membrane Protein FtsB Are Necessary for Interaction with Multiple Cell Division Proteins. Journal of Bacteriology, 2009, 191, 2815-2825.	2.2	49
65	Mutants, Suppressors, and Wrinkled Colonies: Mutant Alleles of the Cell Division Gene ftsQ Point to Functional Domains in FtsQ and a Role for Domain 1C of FtsA in Divisome Assembly. Journal of Bacteriology, 2007, 189, 633-645.	2.2	48
66	Redox-active cysteines of a membrane electron transporter DsbD show dual compartment accessibility. EMBO Journal, 2007, 26, 3509-3520.	7.8	47
67	Compounds targeting disulfide bond forming enzyme DsbB of Gram-negative bacteria. Nature Chemical Biology, 2015, 11, 292-298.	8.0	47
68	Analysis of ftsQ Mutant Alleles in Escherichia coli: Complementation, Septal Localization, and Recruitment of Downstream Cell Division Proteins. Journal of Bacteriology, 2002, 184, 695-705.	2.2	45
69	Genetic Screen Yields Mutations in Genes Encoding All Known Components of the Escherichia coli Signal Recognition Particle Pathway. Journal of Bacteriology, 2002, 184, 111-118.	2.2	45
70	Cell Division in <i>Escherichia coli</i> : Role of FtsL Domains in Septal Localization, Function, and Oligomerization. Journal of Bacteriology, 2000, 182, 116-129.	2.2	42
71	A selection for mutants that interfere with folding of Escherichia coli thioredoxin-1 in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 18872-18877.	7.1	42
72	Functions of Thiol-Disulfide Oxidoreductases inE. coli: Redox Myths, Realities, and Practicalities. Antioxidants and Redox Signaling, 2003, 5, 403-411.	5.4	41

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73	The prokaryotic enzyme DsbB may share key structural features with eukaryotic disulfide bond forming oxidoreductases. Protein Science, 2009, 14, 1630-1642.	7.6	41
74	Role and location of the unusual redox-active cysteines in the hydrophobic domain of the transmembrane electron transporter DsbD. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10471-10476.	7.1	40
75	The unusual transmembrane electron transporter DsbD and its homologues: a bacterial family of disulfide reductases. Research in Microbiology, 2004, 155, 617-622.	2.1	40
76	Functional plasticity of a peroxidase allows evolution of diverse disulfide-reducing pathways. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6735-6740.	7.1	40
77	Role of Leucine Zipper Motifs in Association of the Escherichia coli Cell Division Proteins FtsL and FtsB. Journal of Bacteriology, 2011, 193, 4988-4992.	2.2	39
78	Role for the Nonessential N Terminus of FtsN in Divisome Assembly. Journal of Bacteriology, 2007, 189, 646-649.	2.2	38
79	<i>In vivo</i>oxidative protein folding can be facilitated by oxidationÃ¢Â€Â“reduction cycling. Molecular Microbiology, 2010, 75, 13-28.	2.5	38
80	FtsL, an Essential Cytoplasmic Membrane Protein Involved in Cell Division in Escherichia coli. Journal of Bacteriology, 1992, 174, 7717-7728.	2.2	38
81	Should we make a fuss? A case for social responsibility in science. Nature Biotechnology, 2005, 23, 1479-1480.	17.5	37
82	Alkaline phosphatase synthesis in a cell-free system using DNA and RNA templates. Journal of Molecular Biology, 1977, 110, 75-87.	4.2	35
83	Conserved Role of the Linker Î±-Helix of the Bacterial Disulfide Isomerase DsbC in the Avoidance of Misoxidation by DsbB. Journal of Biological Chemistry, 2006, 281, 4911-4919.	3.4	32
84	Two Snapshots of Electron Transport across the Membrane. Journal of Biological Chemistry, 2009, 284, 11416-11424.	3.4	31
85	Ribonucleotide Reductases: Influence of Environment on Synthesis and Activity. Antioxidants and Redox Signaling, 2006, 8, 773-780.	5.4	26
86	Mutational Alterations of the Key cis Proline Residue That Cause Accumulation of Enzymatic Reaction Intermediates of DsbA, a Member of the Thioredoxin Superfamily. Journal of Bacteriology, 2005, 187, 1519-1522.	2.2	24
87	The Operon as Paradigm: Normal Science and the Beginning of Biological Complexity. Journal of Molecular Biology, 2011, 409, 7-13.	4.2	21
88	Folding LacZ in the Periplasm of Escherichia coli. Journal of Bacteriology, 2014, 196, 3343-3350.	2.2	21
89	Inhibition of <i>Pseudomonas aeruginosa</i> and <i>Mycobacterium tuberculosis</i> disulfide bond forming enzymes. Molecular Microbiology, 2019, 111, 918-937.	2.5	21
90	Artificial Septal Targeting of<i>Bacillus subtilis</i>Cell Division Proteins in<i>Escherichia coli</i>: an Interspecies Approach to the Study of Protein-Protein Interactions in Multiprotein Complexes. Journal of Bacteriology, 2008, 190, 6048-6059.	2.2	20

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91	Mutations of the Membrane-Bound Disulfide Reductase DsbD That Block Electron Transfer Steps from Cytoplasm to Periplasm in Escherichia coli. Journal of Bacteriology, 2006, 188, 5066-5076.	2.2	19
92	Contribution of the FtsQ Transmembrane Segment to Localization to the Cell Division Site. Journal of Bacteriology, 2007, 189, 7273-7280.	2.2	19
93	The essential cell division protein FtsN contains a critical disulfide bond in a nonâ€essential domain. Molecular Microbiology, 2017, 103, 413-422.	2.5	17
94	The Reducing Activity of Glutaredoxin 3 toward Cytoplasmic Substrate Proteins Is Restricted by Methionine 43â€. Biochemistry, 2007, 46, 3366-3377.	2.5	16
95	[1] The all purpose gene fusion. Methods in Enzymology, 2000, 326, 3-7.	1.0	14
96	Inhibition of virulence-promoting disulfide bond formation enzyme DsbB is blocked by mutating residues in two distinct regions. Journal of Biological Chemistry, 2017, 292, 6529-6541.	3.4	14
97	Protein export in Escherichia coli. Current Opinion in Biotechnology, 1992, 3, 481-485.	6.6	13
98	[7] Disulfide bond formation in periplasm of Escherichia coli. Methods in Enzymology, 2002, 348, 54-66.	1.0	13
99	Redox State of Cytoplasmic Thioredoxin. Methods in Enzymology, 2002, 347, 360-370.	1.0	12
100	Evidence from Artificial Septal Targeting and Site-Directed Mutagenesis that Residues in the Extracytoplasmic Î² Domain of DivIB Mediate Its Interaction with the Divisomal Transpeptidase PBP 2B. Journal of Bacteriology, 2010, 192, 6116-6125.	2.2	12
101	Racism: A Central Problem for the Human Genome Diversity Project. Politics and the Life Sciences, 1999, 18, 285-288.	0.7	11
102	Identification of the Thioredoxin Partner of Vitamin K Epoxide Reductase in Mycobacterial Disulfide Bond Formation. Journal of Bacteriology, 2018, 200, .	2.2	11
103	The expanding world of oxidative protein folding. Nature Cell Biology, 2001, 3, E247-E249.	10.3	10
104	Determinants of activity in glutaredoxins: an <i>in vitro</i> evolved Grx1-like variant of <i>Escherichia coli</i> Grx3. Biochemical Journal, 2010, 430, 487-495.	3.7	10
105	Foreword: The Human Genome Initiative: Geneticsâ€™ Lightning Rod. American Journal of Law and Medicine, 1991, 17, 1-13.	0.2	10
106	Genetic Suppressors and Recovery of Repressed Biochemical Memory. Journal of Biological Chemistry, 2009, 284, 12585-12592.	3.4	9
107	"Sequence-gazing?". Science, 1991, 251, 1161-1162.	12.6	8
108	What Lies Beyond Uranus?: Preconceptions, Ignorance, Serendipity and Suppressors in the Search for Biology's Secrets. Genetics, 2007, 176, 733-740.	2.9	8

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109	[1] Strategies for finding mutants. Methods in Enzymology, 1991, 204, 3-18.	1.0	5
110	More Alarums and Excursions. Nature, 1969, 224, 1337-1337.	27.8	4
111	Aeropyrum pernix membrane topology of protein VKOR promotes protein disulfide bond formation in two subcellular compartments. Microbiology (United Kingdom), 2017, 163, 1864-1879.	1.8	4
112	Disulfide Bond Formation in the Periplasm. , 0, , 122-140.		4
113	FranÃ§ois Jacob (1920â€"2013). Current Biology, 2013, 23, R422-R425.	3.9	2
114	Disulfide Bond Formation in the Periplasm and Cytoplasm of Escherichia Coli. , 2003, , 213-232.		2
115	Genetic Approaches for Studying Protein Localization. , 1982, , 315-321.		2
116	On the philosophical analysis of genetic essentialism. Science and Engineering Ethics, 2000, 6, 311-314.	2.9	1
117	Mission possible: Getting to yes with FranÃ§ois Jacob. Research in Microbiology, 2014, 165, 348-350.	2.1	1
118	Criticism and realism. Behavioral and Brain Sciences, 1987, 10, 72-73.	0.7	0
119	Roots: Cloning with Ã¸80lac: The french connection. BioEssays, 1990, 12, 503-507.	2.5	0
120	Chapter 5 Steps in the assembly of a cytoplasmic membrane protein: the MalF component of the maltose transport complex. New Comprehensive Biochemistry, 1992, 22, 49-61.	0.1	0