Alexander S Mankin

List of Publications by Year
in descending order

129 papers	9,269 citations	28242 55 h-index	45285 90 g-index
145 all docs	145 docs citations	145 times ranked	6255 citing authors

#	Article	IF	Citations
1	Structures of the <i>Escherichia coli</i> ribosome with antibiotics bound near the peptidyl transferase center explain spectra of drug action. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17152-17157.	3.3	376
2	Acquisition of a natural resistance gene renders a clinical strain of methicillin-resistantStaphylococcus aureusresistant to the synthetic antibiotic linezolid. Molecular Microbiology, 2007, 64, 1506-1514.	1.2	300
3	Molecular Mechanism of Drug-Dependent Ribosome Stalling. Molecular Cell, 2008, 30, 190-202.	4.5	243
4	The Site of Action of Oxazolidinone Antibiotics in Living Bacteria and in Human Mitochondria. Molecular Cell, 2007, 26, 393-402.	4.5	235
5	How Macrolide Antibiotics Work. Trends in Biochemical Sciences, 2018, 43, 668-684.	3.7	206
6	Protein synthesis by ribosomes with tethered subunits. Nature, 2015, 524, 119-124.	13.7	204
7	Nucleotide Biosynthesis Is Critical for Growth of Bacteria in Human Blood. PLoS Pathogens, 2008, 4, e37.	2.1	203
8	Resistance mutations in 23 S rRNA identify the site of action of the protein synthesis inhibitor linezolid in the ribosomal peptidyl transferase center 1 1Edited by D. E. Draper. Journal of Molecular Biology, 1999, 294, 93-101.	2.0	198
9	Ribosomal peptidyl transferase can withstand mutations at the putative catalytic nucleotide. Nature, 2001, 411, 498-501.	13.7	185
10	Macrolide Antibiotics: Binding Site, Mechanism of Action, Resistance. Current Topics in Medicinal Chemistry, 2003, 3, 949-960.	1.0	177
11	A ketolide resistance mutation in domain II of 23S rRNA reveals the proximity of hairpin 35 to the peptidyl transferase centre. Molecular Microbiology, 1999, 31, 633-639.	1.2	169
12	Oxazolidinone Resistance Mutations in 23S rRNA ofEscherichia coli Reveal the Central Region of Domain V as the Primary Site of Drug Action. Journal of Bacteriology, 2000, 182, 5325-5331.	1.0	164
13	The Ribosomal Peptidyl Transferase Center: Structure, Function, Evolution, Inhibition. Critical Reviews in Biochemistry and Molecular Biology, 2005, 40, 285-311.	2.3	151
14	Identification of ten additional nucleotides in the primary structure of yeast 18S rRNA. Gene, 1986, 44, 143-145.	1.0	147
15	RlmN and Cfr are Radical SAM Enzymes Involved in Methylation of Ribosomal RNA. Journal of the American Chemical Society, 2010, 132, 3953-3964.	6.6	146
16	Programmed drugâ€dependent ribosome stalling. Molecular Microbiology, 2009, 71, 811-824.	1.2	145
17	Cross-linking in the Living Cell Locates the Site of Action of Oxazolidinone Antibiotics. Journal of Biological Chemistry, 2003, 278, 21972-21979.	1.6	142
18	The general mode of translation inhibition by macrolide antibiotics. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15958-15963.	3.3	142

#	Article	IF	Citations
19	Antibiotics and the ribosome. Molecular Microbiology, 2006, 59, 1664-1677.	1.2	141
20	Retapamulin-Assisted Ribosome Profiling Reveals the Alternative Bacterial Proteome. Molecular Cell, 2019, 74, 481-493.e6.	4.5	140
21	The key function of a conserved and modified rRNA residue in the ribosomal response to the nascent peptide. EMBO Journal, 2010, 29, 3108-3117.	3.5	138
22	Structures of proline-rich peptides bound to the ribosome reveal a common mechanism of protein synthesis inhibition. Nucleic Acids Research, 2016, 44, 2439-2450.	6.5	132
23	Binding and Action of CEM-101, a New Fluoroketolide Antibiotic That Inhibits Protein Synthesis. Antimicrobial Agents and Chemotherapy, 2010, 54, 4961-4970.	1.4	131
24	Selective Protein Synthesis by Ribosomes with a Drug-Obstructed Exit Tunnel. Cell, 2012, 151, 508-520.	13.5	130
25	Context-specific inhibition of translation by ribosomal antibiotics targeting the peptidyl transferase center. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12150-12155.	3.3	130
26	The Critical Role of the Universally Conserved A2602 of 23S Ribosomal RNA in the Release of the Nascent Peptide during Translation Termination. Molecular Cell, 2003, 11, 103-112.	4.5	127
27	An antimicrobial peptide that inhibits translation by trapping release factors on the ribosome. Nature Structural and Molecular Biology, 2017, 24, 752-757.	3.6	123
28	The methyltransferase YfgB/RlmN is responsible for modification of adenosine 2503 in 23S rRNA. Rna, 2008, 14, 98-106.	1.6	118
29	Binding Site of Macrolide Antibiotics on the Ribosome: New Resistance Mutation Identifies a Specific Interaction of Ketolides with rRNA. Journal of Bacteriology, 2001, 183, 6898-6907.	1.0	115
30	Molecular basis for erythromycin-dependent ribosome stalling during translation of the ErmBL leader peptide. Nature Communications, 2014, 5, 3501.	5.8	115
31	The antibiotic thiostrepton inhibits a functional transition within protein L11 at the ribosomal GTPase centre 1 1Edited by D. E. Draper. Journal of Molecular Biology, 1998, 276, 391-404.	2.0	114
32	Nascent Peptide in the Ribosome Exit Tunnel Affects Functional Properties of the A-Site of the Peptidyl Transferase Center. Molecular Cell, 2011, 41, 321-330.	4.5	114
33	Transcriptional and Translational Control of the <i>mlr</i> Operon, Which Confers Resistance to Seven Classes of Protein Synthesis Inhibitors. Antimicrobial Agents and Chemotherapy, 2008, 52, 1703-1712.	1.4	106
34	A Protein Component at the Heart of an RNA Machine: The Importance of Protein L27 for the Function of the Bacterial Ribosome. Molecular Cell, 2005, 20, 427-435.	4.5	103
35	A synthetic antibiotic class overcoming bacterial multidrug resistance. Nature, 2021, 599, 507-512.	13.7	102
36	Macrolide antibiotics allosterically predispose the ribosome for translation arrest. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9804-9809.	3.3	99

#	Article	IF	Citations
37	Odilorhabdins, Antibacterial Agents that Cause Miscoding by Binding at a New Ribosomal Site. Molecular Cell, 2018, 70, 83-94.e7.	4.5	96
38	Macrolide antibiotics in the ribosome exit tunnel: speciesâ€specific binding and action. Annals of the New York Academy of Sciences, 2011, 1241, 33-47.	1.8	91
39	Macrolide myths. Current Opinion in Microbiology, 2008, 11, 414-421.	2.3	84
40	Tools for Characterizing Bacterial Protein Synthesis Inhibitors. Antimicrobial Agents and Chemotherapy, 2013, 57, 5994-6004.	1.4	81
41	Programmed Ribosomal Frameshifting Generates a Copper Transporter and a Copper Chaperone from the Same Gene. Molecular Cell, 2017, 65, 207-219.	4.5	81
42	Essential Mechanisms in the Catalysis of Peptide Bond Formation on the Ribosome. Journal of Biological Chemistry, 2005, 280, 36065-36072.	1.6	77
43	Deleterious mutations in small subunit ribosomal RNA identify functional sites and potential targets for antibiotics. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16620-16625.	3.3	76
44	Archaeal rRNA operons. Trends in Biochemical Sciences, 1991, 16, 22-26.	3.7	75
45	Chemical engineering of the peptidyl transferase center reveals an important role of the 2'-hydroxyl group of A2451. Nucleic Acids Research, 2005, 33, 1618-1627.	6.5	75
46	Induction of <i>erm</i> (C) Expression by Noninducing Antibiotics. Antimicrobial Agents and Chemotherapy, 2008, 52, 866-874.	1.4	74
47	Amicoumacin A Inhibits Translation by Stabilizing mRNA Interaction with the Ribosome. Molecular Cell, 2014, 56, 531-540.	4.5	73
48	Structure of Erm-modified 70S ribosome reveals the mechanism of macrolide resistance. Nature Chemical Biology, 2021, 17, 412-420.	3.9	70
49	Regulation of Gene Expression by Macrolide-Induced Ribosomal Frameshifting. Molecular Cell, 2013, 52, 629-642.	4.5	69
50	Erythromycin- and Chloramphenicol-Induced Ribosomal Assembly Defects Are Secondary Effects of Protein Synthesis Inhibition. Antimicrobial Agents and Chemotherapy, 2009, 53, 563-571.	1.4	63
51	The structure of ribosome-lankacidin complex reveals ribosomal sites for synergistic antibiotics. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1983-1988.	3.3	63
52	Low Fitness Cost of the Multidrug Resistance Gene <i>cfr</i>. Antimicrobial Agents and Chemotherapy, 2011, 55, 3714-3719.	1.4	63
53	Role of antibiotic ligand in nascent peptide-dependent ribosome stalling. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10496-10501.	3.3	60
54	Structure and function of ribosomal RNA. Biochemistry and Cell Biology, 1995, 73, 997-1009.	0.9	59

#	Article	IF	Citations
55	Binding Site of the Bridged Macrolides in the Escherichia coli Ribosome. Antimicrobial Agents and Chemotherapy, 2005, 49, 281-288.	1.4	59
56	Genetic Environment and Stability of <i>cfr</i> in Methicillin-Resistant Staphylococcus aureus CM05. Antimicrobial Agents and Chemotherapy, 2012, 56, 332-340.	1.4	59
57	Erythromycin Resistance Peptides Selected from Random Peptide Libraries. Journal of Biological Chemistry, 1997, 272, 17425-17430.	1.6	58
58	Nosocomial superinfections due to linezolid-resistant Enterococcus faecalis: evidence for a gene dosage effect on linezolid MICs. Diagnostic Microbiology and Infectious Disease, 2003, 47, 511-513.	0.8	58
59	Deregulation of translation due to post-transcriptional modification of rRNA explains why erm genes are inducible. Nature Communications, 2013, 4, 1984.	5.8	57
60	Mutations in the Peptidyl Transferase Center of 23 S rRNA Reveal the Site of Action of Sparsomycin, a Universal Inhibitor of Translation. Journal of Molecular Biology, 1996, 261, 222-230.	2.0	52
61	Engineered ribosomes with tethered subunits for expanding biological function. Nature Communications, 2019, 10, 3920.	5.8	52
62	EmtA, a rRNA methyltransferase conferring high-level evernimicin resistance. Molecular Microbiology, 2001, 41, 1349-1356.	1.2	51
63	Specific fragmentation of tRNA and rRNA at a 7-methylguanine residue in the presence of methylated carrier RNA. FEBS Journal, 1985, 146, 679-687.	0.2	50
64	Pactamycin resistance mutations in functional sites of 16 S rRNA. Journal of Molecular Biology, 1997, 274, 8-15.	2.0	50
65	Kinetics of drugâ€“ribosome interactions defines the cidality of macrolide antibiotics. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13673-13678.	3.3	48
66	The nucleotide sequence of the gene coding for the 16S rRNA from the archaebacterium Halobacterium halobium. Gene, 1985, 37, 181-189.	1.0	47
67	Binding and Action of Amino Acid Analogs of Chloramphenicol upon the Bacterial Ribosome. Journal of Molecular Biology, 2018, 430, 842-852.	2.0	47
68	Context-Specific Action of Ribosomal Antibiotics. Annual Review of Microbiology, 2018, 72, 185-207.	2.9	47
69	Complete nucleotide sequence of the single ribosomal RNA operon of Halobacterium halobium: secondary structure of the archaebacterial 23S rRNA. Molecular Genetics and Genomics, 1986, 202, 152-161.	2.4	46
70	Short peptides conferring resistance to macrolide antibiotics. Peptides, 2001, 22, 1661-1668.	1.2	46
71	An Indigenous Posttranscriptional Modification in the Ribosomal Peptidyl Transferase Center Confers Resistance to an Array of Protein Synthesis Inhibitors. Journal of Molecular Biology, 2008, 380, 593-597.	2.0	46
72	Mutations in helix 27 of the yeast Saccharomyces cerevisiae 18S rRNA affect the function of the decoding center of the ribosome. Rna, 2000, 6, 1174-1184.	1.6	45

#	Article	IF	Citations
73	Inactivation of the Indigenous Methyltransferase RlmN in Staphylococcus aureus Increases Linezolid Resistance. Antimicrobial Agents and Chemotherapy, 2011, 55, 2989-2991.	1.4	44
74	Identifying the targets of aminoacyl-tRNA synthetase inhibitors by primer extension inhibition. Nucleic Acids Research, 2013, 41, e144-e144.	6.5	44
75	Nascent peptide in the â€˜birth canalâ€™ of the ribosome. Trends in Biochemical Sciences, 2006, 31, 11-13.	3.7	43
76	Nascent peptide assists the ribosome in recognizing chemically distinct small molecules. Nature Chemical Biology, 2016, 12, 153-158.	3.9	43
77	Dynamics of the context-specific translation arrest by chloramphenicol and linezolid. Nature Chemical Biology, 2020, 16, 310-317.	3.9	43
78	Structural and mechanistic basis for translation inhibition by macrolide and ketolide antibiotics. Nature Communications, 2021, 12, 4466.	5.8	43
79	Inhibition of Translation and Cell Growth by Minigene Expression. Journal of Bacteriology, 1999, 181, 1617-1622.	1.0	42
80	Interactions of the TnaC nascent peptide with rRNA in the exit tunnel enable the ribosome to respond to free tryptophan. Nucleic Acids Research, 2014, 42, 1245-1256.	6.5	41
81	Negamycin Interferes with Decoding and Translocation by Simultaneous Interaction with rRNA and tRNA. Molecular Cell, 2014, 56, 541-550.	4.5	41
82	Ketolide Resistance Conferred by Short Peptides. Journal of Biological Chemistry, 1998, 273, 20073-20077.	1.6	40
83	Mutations in Domain II of 23 S rRNA Facilitate Translation of a 23 S rRNA-encoded Pentapeptide Conferring Erythromycin Resistance. Journal of Molecular Biology, 1996, 259, 1-6.	2.0	39
84	Assembly and functionality of the ribosome with tethered subunits. Nature Communications, 2019, 10, 930.	5.8	39
85	Effect of antibiotics on large ribosomal subunit assembly reveals possible function of 5 S rRNA. Journal of Molecular Biology, 1999, 291, 1025-1034.	2.0	37
86	A fully orthogonal system for protein synthesis in bacterial cells. Nature Communications, 2020, 11, 1858.	5.8	37
87	Potential New Antibiotic Sites in the Ribosome Revealed by Deleterious Mutations in RNA of the Large Ribosomal Subunit. Journal of Biological Chemistry, 2007, 282, 24329-24342.	1.6	36
88	The Genetic Environment of the <i>cfr</i> Gene and the Presence of Other Mechanisms Account for the Very High Linezolid Resistance of Staphylococcus epidermidis Isolate 426-3147L. Antimicrobial Agents and Chemotherapy, 2013, 57, 1173-1179.	1.4	36
89	Cross-hypersensitivity Effects of Mutations in 23 S rRNA Yield Insight into Aminoacyl-tRNA Binding. Journal of Molecular Biology, 1994, 244, 151-157.	2.0	34
90	Binding of Macrolide Antibiotics Leads to Ribosomal Selection against Specific Substrates Based on Their Charge and Size. Cell Reports, 2016, 16, 1789-1799.	2.9	33

#	Article	IF	Citations
91	Structural basis for context-specific inhibition of translation by oxazolidinone antibiotics. Nature Structural and Molecular Biology, 2022, 29, 162-171.	3.6	31
92	Peptidyl transferase activity catalyzed by protein-free 23S ribosomal RNA remains elusive. Rna, 1999, 5, 605-608.	1.6	30
93	Peptide-mediated macrolide resistance reveals possible specific interactions in the nascent peptide exit tunnel. Molecular Microbiology, 2004, 54, 376-385.	1.2	30
94	Genes within Genes in Bacterial Genomes. Microbiology Spectrum, 2018, 6, .	1.2	30
95	Co-produced natural ketolides methymycin and pikromycin inhibit bacterial growth by preventing synthesis of a limited number of proteins. Nucleic Acids Research, 2017, 45, 9573-9582.	6.5	29
96	The primary and secondary structure of the 5'-end region of encephalomyocarditis virus RNA a novel approach to sequencing long RNA molecules. Gene, 1983, 26, 189-195.	1.0	27
97	Structural signatures of antibiotic binding sites on the ribosome. Nucleic Acids Research, 2010, 38, 5982-5994.	6.5	26
98	Resistance to ketolide antibiotics by coordinated expression of rRNA methyltransferases in a bacterial producer of natural ketolides. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12956-12961.	3.3	26
99	Identifying Small Open Reading Frames in Prokaryotes with Ribosome Profiling. Journal of Bacteriology, 2022, 204, JB0029421.	1.0	26
100	Synthesis and antibacterial activity of desosamine-modified macrolide derivatives. Bioorganic and Medicinal Chemistry Letters, 2012, 22, 4575-4578.	1.0	25
101	Fluorescently labeled ribosomes as a tool for analyzing antibiotic binding. Rna, 2009, 15, 1597-1604.	1.6	23
102	Genome-wide effects of the antimicrobial peptide apidaecin on translation termination in bacteria. ELife, 2020, 9, .	2.8	22
103	Comparison of functional peptide encoded in the<i>Escherichia coli</i>23S rRNA with other peptides involved in<i>cis</i>-regulation of translation. Biochemistry and Cell Biology, 1995, 73, 1061-1070.	0.9	20
104	Baby, don't stop!. Nature Genetics, 1999, 23, 8-10.	9.4	20
105	Antibiotic blocks mRNA path on the ribosome. Nature Structural and Molecular Biology, 2006, 13, 858-860.	3.6	19
106	Selection of Small Peptides, Inhibitors of Translation. Journal of Molecular Biology, 2009, 391, 813-819.	2.0	18
107	Ribosome engineering reveals the importance of 5S rRNA autonomy for ribosome assembly. Nature Communications, 2020, 11, 2900.	5.8	18
108	Context-specific action of macrolide antibiotics on the eukaryotic ribosome. Nature Communications, 2021, 12, 2803.	5.8	18

#	Article	IF	Citations
109	An rRNA Fragment and Its Antisense Can Alter Decoding of Genetic Information. Journal of Bacteriology, 1998, 180, 2744-2748.	1.0	17
110	The nucleotide sequence of the genes coding for the S19 and L22 equivalent ribosomal proteins from Halobacterium halobium. FEBS Letters, 1989, 246, 13-16.	1.3	15
111	Occurrence and location of 7-methylguanine residues in small-subunit ribosomal RNAs from eubacteria, archaebacteria and eukaryotes. FEBS Letters, 1985, 188, 233-238.	1.3	13
112	Picky nascent peptides do not talk to foreign ribosomes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 5931-5932.	3.3	11
113	A long-distance rRNA base pair impacts the ability of macrolide antibiotics to kill bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1971-1975.	3.3	11
114	Mechanism of translation inhibition by type II GNAT toxin AtaT2. Nucleic Acids Research, 2020, 48, 8617-8625.	6.5	11
115	Synthesis and biological investigation of new 4â€³-malonyl tethered derivatives of erythromycin and clarithromycin. Bioorganic and Medicinal Chemistry Letters, 2006, 16, 1506-1509.	1.0	10
116	Charting the sequence-activity landscape of peptide inhibitors of translation termination. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	10
117	[29] Surface topography of ribosomal RNA. Methods in Enzymology, 1988, 164, 440-456.	0.4	9
118	Suppression of Nonsense Mutations Induced by Expression of an RNA Complementary to a Conserved Segment of 23S rRNA. Journal of Bacteriology, 1999, 181, 5257-5262.	1.0	7
119	Protein Accounting in the Cellular Economy. Cell, 2014, 157, 529-531.	13.5	6
120	The context of the ribosome binding site in mRNAs defines specificity of action of kasugamycin, an inhibitor of translation initiation. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	6
121	Introduction of a mini-gene encoding a five-amino acid peptide confers erythromycin resistance onBacillus subtilisand provides temporary erythromycin protection inProteus mirabilis. FEMS Microbiology Letters, 2000, 182, 213-218.	0.7	5
122	SPARK: A New Peptidyl Transferase Activity Assay. Methods in Molecular Medicine, 2008, 142, 107-116.	0.8	5
123	Genes within Genes in Bacterial Genomes. , 2018, , 133-154.		4
124	Reconstitution of the 50S Subunit with In Vitro-Transcribed 23S rRNA: a New Tool for Studying Peptidyltransferase. , 0, , 229-243.		3
125	Frame-shifted proteins of a given gene are unlikely to retain the same function. Rna, 2020, 26, 1301-1302.	1.6	1
126	Editorial: Ribosome survey and summary collection 2020. Nucleic Acids Research, 2020, 48, 1011-1012.	6.5	1

#	Article	IF	Citations
127	Nascent peptideâ€dependent regulation of protein synthesis. FASEB Journal, 2009, 23, .	0.2	0
128	Nascent peptideâ€dependent ribosome stalling in drugâ€inducible antibiotic resistance. FASEB Journal, 2009, 23, 496.5.	0.2	0
129	The Shortest Nascent Peptide That Can Direct Ribosome Stalling. FASEB Journal, 2012, 26, 550.3.	0.2	0