

Akihito Yamaguchi

List of Publications by Year in descending order

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8,162
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61984

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90
all docs

90
docs citations

90
times ranked

5353
citing authors

#	ARTICLE	IF	CITATIONS
1	Crystal structure of bacterial multidrug efflux transporter AcrB. <i>Nature</i> , 2002, 419, 587-593.	27.8	893
2	Crystal structures of a multidrug transporter reveal a functionally rotating mechanism. <i>Nature</i> , 2006, 443, 173-179.	27.8	684
3	Analysis of a Complete Library of Putative Drug Transporter Genes in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2001, 183, 5803-5812.	2.2	580
4	The Sphingolipid Transporter Spns2 Functions in Migration of Zebrafish Myocardial Precursors. <i>Science</i> , 2009, 323, 524-527.	12.6	372
5	Novel Macrolide-Specific ABC-Type Efflux Transporter in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2001, 183, 5639-5644.	2.2	330
6	Structures of the multidrug exporter AcrB reveal a proximal multisite drug-binding pocket. <i>Nature</i> , 2011, 480, 565-569.	27.8	304
7	Indole induces the expression of multidrug exporter genes in <i>Escherichia coli</i> . <i>Molecular Microbiology</i> , 2004, 55, 1113-1126.	2.5	279
8	Structural basis for the inhibition of bacterial multidrug exporters. <i>Nature</i> , 2013, 500, 102-106.	27.8	249
9	The Putative Response Regulator BaeR Stimulates Multidrug Resistance of <i>Escherichia coli</i> via a Novel Multidrug Exporter System, MdtABC. <i>Journal of Bacteriology</i> , 2002, 184, 4161-4167.	2.2	242
10	AcrAB Multidrug Efflux Pump Regulation in <i>Salmonella enterica</i> serovar Typhimurium by RamA in Response to Environmental Signals. <i>Journal of Biological Chemistry</i> , 2008, 283, 24245-24253.	3.4	185
11	Mouse SPNS2 Functions as a Sphingosine-1-Phosphate Transporter in Vascular Endothelial Cells. <i>PLoS ONE</i> , 2012, 7, e38941.	2.5	179
12	Comprehensive Studies of Drug Resistance Mediated by Overexpression of Response Regulators of Two-Component Signal Transduction Systems in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2003, 185, 1851-1856.	2.2	151
13	Structural basis of RND-type multidrug exporters. <i>Frontiers in Microbiology</i> , 2015, 6, 327.	3.5	137
14	The Sphingosine 1-Phosphate Transporter, SPNS2, Functions as a Transporter of the Phosphorylated Form of the Immunomodulating Agent FTY720. <i>Journal of Biological Chemistry</i> , 2011, 286, 1758-1766.	3.4	135
15	EvgA of the Two-Component Signal Transduction System Modulates Production of the YhiUV Multidrug Transporter in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2002, 184, 2319-2323.	2.2	134
16	Regulation and physiological function of multidrug efflux pumps in <i>Escherichia coli</i> and <i>Salmonella</i> . <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2009, 1794, 834-843.	2.3	132
17	Roles of TolC-Dependent Multidrug Transporters of <i>Escherichia coli</i> in Resistance to β -Lactams. <i>Antimicrobial Agents and Chemotherapy</i> , 2003, 47, 3030-3033.	3.2	130
18	Genome-Wide Analyses of <i>Escherichia coli</i> Gene Expression Responsive to the BaeSR Two-Component Regulatory System. <i>Journal of Bacteriology</i> , 2005, 187, 1763-1772.	2.2	121

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19	Characterization of the ATP-dependent Sphingosine 1-Phosphate Transporter in Rat Erythrocytes. <i>Journal of Biological Chemistry</i> , 2009, 284, 21192-21200.	3.4	119
20	β-Lactam resistance modulated by the overexpression of response regulators of two-component signal transduction systems in <i>Escherichia coli</i> . <i>Journal of Antimicrobial Chemotherapy</i> , 2003, 52, 576-582.	3.0	112
21	Overexpression of the Response Regulator <i>evgA</i> of the Two-Component Signal Transduction System Modulates Multidrug Resistance Conferred by Multidrug Resistance Transporters. <i>Journal of Bacteriology</i> , 2001, 183, 1455-1458.	2.2	108
22	Growth Phase-Dependent Expression of Drug Exporters in <i>Escherichia coli</i> and Its Contribution to Drug Tolerance. <i>Journal of Bacteriology</i> , 2006, 188, 5693-5703.	2.2	106
23	Direct Interaction of Multidrug Efflux Transporter AcrB and Outer Membrane Channel TolC Detected via Site-Directed Disulfide Cross-Linking. <i>Biochemistry</i> , 2005, 44, 11115-11121.	2.5	104
24	Role of Histone-Like Protein H-NS in Multidrug Resistance of <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2004, 186, 1423-1429.	2.2	103
25	Evaluation of Multidrug Efflux Pump Inhibitors by a New Method Using Microfluidic Channels. <i>PLoS ONE</i> , 2011, 6, e18547.	2.5	95
26	Secreted indole serves as a signal for expression of type III secretion system translocators in enterohaemorrhagic <i>Escherichia coli</i> O157:H7. <i>Microbiology (United Kingdom)</i> , 2009, 155, 541-550.	1.8	90
27	Multiple entry pathways within the efflux transporter AcrB contribute to multidrug recognition. <i>Nature Communications</i> , 2018, 9, 124.	12.8	87
28	Complete Cysteine-scanning Mutagenesis and Site-directed Chemical Modification of the Tn10-encoded Metal-Tetracycline/H ⁺ Antiporter. <i>Journal of Biological Chemistry</i> , 2001, 276, 20330-20339.	3.4	84
29	Effects of indole on drug resistance and virulence of <i>Salmonella enterica</i> serovar Typhimurium revealed by genome-wide analyses. <i>Gut Pathogens</i> , 2012, 4, 5.	3.4	84
30	Multidrug-exporting secondary transporters. <i>Current Opinion in Structural Biology</i> , 2003, 13, 443-452.	5.7	83
31	Molecular and physiological functions of sphingosine 1-phosphate transporters. <i>Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids</i> , 2014, 1841, 759-765.	2.4	82
32	Energetics of tetracycline efflux system encoded by Tn10 in <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1985, 193, 194-198.	2.8	74
33	AcrS/EnvR Represses Expression of the <i>acrAB</i> Multidrug Efflux Genes in <i>Escherichia coli</i> . <i>Journal of Bacteriology</i> , 2008, 190, 6276-6279.	2.2	74
34	Membrane topology of ABC-type macrolide antibiotic exporter MacB in <i>Escherichia coli</i> . <i>FEBS Letters</i> , 2003, 546, 241-246.	2.8	69
35	Regulation of the AcrAB multidrug efflux pump in <i>Salmonella enterica</i> serovar Typhimurium in response to indole and paraquat. <i>Microbiology (United Kingdom)</i> , 2011, 157, 648-655.	1.8	66
36	β-Lactam Selectivity of Multidrug Transporters AcrB and AcrD Resides in the Proximal Binding Pocket. <i>Journal of Biological Chemistry</i> , 2014, 289, 10680-10690.	3.4	66

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37	MFSD2B is a sphingosine 1-phosphate transporter in erythroid cells. <i>Scientific Reports</i> , 2018, 8, 4969.	3.3	65
38	Stoichiometry of metal-tetracycline/H ⁺ antiport mediated by transposon Tn10-encoded tetracycline resistance protein in <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1991, 282, 415-418.	2.8	56
39	Membrane Topology of the Transposon 10-encoded Metal-Tetracycline/H ⁺ Antiporter as Studied by Site-directed Chemical Labeling. <i>Journal of Biological Chemistry</i> , 1997, 272, 580-585.	3.4	56
40	Extramembrane Central Pore of Multidrug Exporter AcrB in <i>Escherichia coli</i> Plays an Important Role in Drug Transport. <i>Journal of Biological Chemistry</i> , 2004, 279, 3743-3748.	3.4	54
41	The AraC-family regulator GadX enhances multidrug resistance in <i>Escherichia coli</i> by activating expression of mdtEF multidrug efflux genes. <i>Journal of Infection and Chemotherapy</i> , 2008, 14, 23-29.	1.7	54
42	Orientation of the carboxyl terminus of the transposon Tn10-encoded tetracycline resistance protein in <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1990, 265, 17-19.	2.8	53
43	Mechanisms of drug/H ⁺ antiport: complete cysteine-scanning mutagenesis and the protein engineering approach. <i>Current Opinion in Chemical Biology</i> , 2003, 7, 570-579.	6.1	46
44	Indole enhances acid resistance in <i>Escherichia coli</i> . <i>Microbial Pathogenesis</i> , 2010, 49, 90-94.	2.9	45
45	Aspartic acid-66 is the only essential negatively charged residue in the putative hydrophilic loop region of the metal-tetracycline/hydrogen ion antiporter encoded by transposon Tn10 of <i>Escherichia coli</i> . <i>Biochemistry</i> , 1992, 31, 8344-8348.	2.5	44
46	Determination of a Transmembrane Segment Using Cysteine-Scanning Mutants of Transposon Tn10-Encoded Metal ⁺ Tetracycline/H ⁺ Antiporter. <i>Biochemistry</i> , 1996, 35, 15896-15899.	2.5	44
47	AcrB-AcrA Fusion Proteins That Act as Multidrug Efflux Transporters. <i>Journal of Bacteriology</i> , 2016, 198, 332-342.	2.2	43
48	Molecular mechanisms of AcrB-mediated multidrug export. <i>Research in Microbiology</i> , 2018, 169, 372-383.	2.1	41
49	Membrane Topology of a Multidrug Efflux Transporter, AcrB, in <i>Escherichia coli</i> . <i>Journal of Biochemistry</i> , 2002, 131, 145-151.	1.7	38
50	Role of the conserved quartets of residues located in the N- and C-terminal halves of the transposon Tn10-encoded metal-tetracycline/hydrogen ion antiporter of <i>Escherichia coli</i> . <i>Biochemistry</i> , 1993, 32, 5698-5704.	2.5	32
51	The tetracycline efflux protein encoded by the <i>tet</i> (K) gene from <i>Staphylococcus aureus</i> is a metal ⁺ tetracycline/H ⁺ antiporter. <i>FEBS Letters</i> , 1995, 365, 193-197.	2.8	32
52	Site-Specificity of the Second-Site Suppressor Mutation of the Asp-285 Asn Mutant of Metal-Tetracycline/H ⁺ Antiporter of <i>Escherichia coli</i> and the Effects of Amino Acid Substitutions at the First and Second Sites. <i>Biochemistry</i> , 1995, 34, 7-12.	2.5	30
53	Site-directed Chemical Modification of Cysteine-scanning Mutants as to Transmembrane Segment II and Its Flanking Regions of the Tn10-encoded Metal-Tetracycline/H ⁺ Antiporter Reveals a Transmembrane Water-filled Channel. <i>Journal of Biological Chemistry</i> , 1998, 273, 32806-32811.	3.4	30
54	Cysteine-scanning Mutagenesis of Transmembrane Segments 4 and 5 of the Tn10-encoded Metal-Tetracycline/H ⁺ Antiporter Reveals a Permeability Barrier in the Middle of a Transmembrane Water-filled Channel. <i>Journal of Biological Chemistry</i> , 2000, 275, 22704-22712.	3.4	30

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55	The effect of lipopolysaccharide on lipid bilayer permeability of β -lactam antibiotics. FEBS Letters, 1984, 170, 268-272.	2.8	26
56	Cysteine-scanning Mutagenesis around Transmembrane Segment III of Tn10-encoded Metal-Tetracycline/H ⁺ Antiporter. Journal of Biological Chemistry, 1998, 273, 5243-5247.	3.4	26
57	Crystal structures of multidrug efflux pump MexB bound with high-molecular-mass compounds. Scientific Reports, 2019, 9, 4359.	3.3	26
58	Difference in pathway of Escherichia coli outer membrane permeation between penicillins and cephalosporins. FEBS Letters, 1985, 181, 143-148.	2.8	25
59	Roles of Conserved Arginine Residues in the Metal-Tetracycline/H ⁺ Antiporter of Escherichia coli. Biochemistry, 1998, 37, 5475-5480.	2.5	25
60	N-Acetyl-d-Glucosamine Induces the Expression of Multidrug Exporter Genes, mdtEF, via Catabolite Activation in Escherichia coli. Journal of Bacteriology, 2006, 188, 5851-5858.	2.2	25
61	Cysteine-scanning Mutagenesis around Transmembrane Segments 1 and 11 and Their Flanking Loop Regions of Tn10-encoded Metal-Tetracycline/H ⁺ Antiporter. Journal of Biological Chemistry, 2000, 275, 18692-18697.	3.4	24
62	Transmembrane glutamic acid residues play essential roles in the metal-Tetracycline/H ⁺ antiporter of Staphylococcus aureus. FEBS Letters, 1996, 391, 243-246.	2.8	22
63	Phylogenetic and functional characterisation of the Haemophilus influenzae multidrug efflux pump AcrB. Communications Biology, 2019, 2, 340.	4.4	22
64	Role of xenobiotic transporters in bacterial drug resistance and virulence. IUBMB Life, 2008, 60, 569-574.	3.4	21
65	Serine residues responsible for tetracycline transport are on a vertical stripe including Asp-84 on one side of transmembrane helix 3 in transposon Tn10-encoded tetracycline/H ⁺ antiporter of Escherichia coli. FEBS Letters, 1992, 307, 229-232.	2.8	20
66	Asp-285 of the metal-tetracycline/H ⁺ antiporter of Escherichia coli is essential for substrate binding. FEBS Letters, 1996, 388, 50-52.	2.8	20
67	Cysteine-scanning mutagenesis around transmembrane segment VI of Tn10-encoded metal-tetracycline/H ⁺ antiporter. FEBS Letters, 1999, 461, 315-318.	2.8	20
68	Proximity of Periplasmic Loops in the Metal-Tetracycline/H ⁺ Antiporter of Escherichia coli Observed on Site-directed Chemical Cross-linking. Journal of Biological Chemistry, 2000, 275, 5270-5274.	3.4	19
69	Second-site suppressor mutations for the Asp-66 f.wdarw. Cys mutant of the transposon Tn10-encoded metal-tetracycline/H ⁺ antiporter of Escherichia coli. Biochemistry, 1995, 34, 11800-11806.	2.5	17
70	Substrate-induced acceleration of N-ethylmaleimide reaction with the Cys-65 mutant of the transposon Tn 10-encoded metal-tetracycline/H ⁺ antiporter depends on the interaction of Asp-66 with the substrate. FEBS Letters, 1995, 362, 47-49.	2.8	16
71	The in vivo assembly and function of the N- and C-terminal halves of the Tn 10-encoded TetA protein in Escherichia coli. FEBS Letters, 1993, 324, 131-135.	2.8	15
72	Remote Conformational Effects of the Gly-62 to Leu Mutation of the Tn10-Encoded Metal-Tetracycline/H ⁺ Antiporter of Escherichia coli and Its Second-Site Suppressor Mutation. Biochemistry, 1997, 36, 6941-6946.	2.5	15

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73	A novel compound, 1,1-dimethyl-5-(1-hydroxypropyl)-4,6,7-trimethylindan, is an effective inhibitor of the tet(K) gene-encoded metal-tetracycline/H ⁺ -antiporter of <i>Staphylococcus aureus</i> . <i>FEBS Letters</i> , 1997, 412, 337-340.	2.8	15
74	His257 Is a Uniquely Important Histidine Residue for Tetracycline/H ⁺ -Antiport Function but Not Mandatory for Full Activity of the Transposon Tn10-Encoded Metal ⁺ -Tetracycline/H ⁺ -Antiporter. <i>Biochemistry</i> , 1996, 35, 4359-4364.	2.5	14
75	Hot Spots for Sulfhydryl Inactivation of Cys Mutants in the Widely Conserved Sequence Motifs of the Metal-Tetracycline/H ⁺ Antiporter of <i>Escherichia coli</i> 1. <i>Journal of Biochemistry</i> , 1994, 115, 958-964.	1.7	13
76	Hoisting-Loop in Bacterial Multidrug Exporter AcrB Is a Highly Flexible Hinge That Enables the Large Motion of the Subdomains. <i>Frontiers in Microbiology</i> , 2017, 8, 2095.	3.5	13
77	Fluorescence-based rapid measurement of sphingosine-1-phosphate transport activity in erythrocytes. <i>Journal of Lipid Research</i> , 2016, 57, 2088-2094.	4.2	11
78	Identification of the active site of <i>Citrobacter freundii</i> β -lactamase using dansyl-penicillin. <i>FEBS Letters</i> , 1987, 218, 126-130.	2.8	10
79	Roles of acidic residues in the hydrophilic loop regions of metal ⁺ -tetracycline/H ⁺ antiporter Tet(K) of <i>Staphylococcus aureus</i> . <i>FEBS Letters</i> , 1997, 419, 211-214.	2.8	10
80	Transmembrane remote conformational suppression of the Gly-332 mutation of the Tn10-encoded metal-tetracycline/H ⁺ -antiporter. <i>FEBS Letters</i> , 1999, 457, 169-173.	2.8	10
81	Effects of magnesium and sodium ions on the outer membrane permeability of cephalosporins in <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1986, 208, 43-47.	2.8	9
82	Effects of sulfhydryl reagents on the Cys65 mutant of the transposon Tn10-encoded metal-tetracycline/H ⁺ -antiporter of <i>Escherichia coli</i> . <i>FEBS Letters</i> , 1993, 322, 201-204.	2.8	9
83	Reconstitution of the metal-tetracycline/H ⁺ -antiporter of <i>Escherichia coli</i> in proteoliposomes including FOF1-ATPase. <i>FEBS Letters</i> , 1995, 374, 72-76.	2.8	9
84	Mercaptide Formed between the Residue Cys70 and Hg ²⁺ or Co ²⁺ Behaves as a Functional Positively Charged Side Chain Operative in the Arg70 Cys Mutant of the Metal ⁺ -Tetracycline/H ⁺ -Antiporter of <i>Escherichia coli</i> . <i>Biochemistry</i> , 1996, 35, 9385-9391.	2.5	9
85	The effect of hydrophobicity of β -lactam antibiotics on their phospholipid bilayer permeability. <i>FEBS Letters</i> , 1983, 164, 389-392.	2.8	5
86	Second-site suppressor mutations for the Arg70 substitution mutants of the Tn10-encoded metal-tetracycline/H ⁺ antiporter of <i>Escherichia coli</i> . <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1997, 1322, 230-236.	1.0	5
87	3P-041 Aromatic residues of multidrug exporter AcrB in <i>Escherichia coli</i> play an important role in substrates recognition (The 46th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , 2008, 48, S133-S134.	0.1	0
88	2P124 X-ray structural analysis of RamR, the regulator of the multidrug efflux pump AcrAB in <i>Salmonella enterica</i> (The 48th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , 2010, 50, S104.	0.1	0
89	Crystallographic Analysis of Drug and Inhibitor-Binding Structure of RND-Type Multidrug Exporter AcrB in Physiologically Relevant Asymmetric Crystals. <i>Methods in Molecular Biology</i> , 2018, 1700, 25-36.	0.9	0