Shimon Schuldiner

List of Publications by Year
in descending order

131 papers	10,057 citations	34493 54 h-index	42259 96 g-index
142 all docs	142 docs citations	142 times ranked	4210 citing authors

#	Article	IF	Citations
1	Acidification of Cytoplasm in Escherichia coli Provides a Strategy to Cope with Stress and Facilitates Development of Antibiotic Resistance. Scientific Reports, 2020, 10, 9954.	1.6	21
2	Deletion of the major Escherichia coli multidrug transporter AcrB reveals transporter plasticity and redundancy in bacterial cells. PLoS ONE, 2019, 14, e0218828.	1.1	15
3	The ins and outs of vesicular monoamine transporters. Journal of General Physiology, 2018, 150, 671-682.	0.9	63
4	The Escherichia coli effluxome. Research in Microbiology, 2018, 169, 357-362.	1.0	21
5	Emulating proton-induced conformational changes in the vesicular monoamine transporter VMAT2 by mutagenesis. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7390-E7398.	3.3	20
6	A liposomal method for evaluation of inhibitors of H+âˆ’coupled multidrug transporters. Journal of Pharmacological and Toxicological Methods, 2016, 77, 53-57.	0.3	6
7	A Transporter Interactome Is Essential for the Acquisition of Antimicrobial Resistance to Antibiotics. PLoS ONE, 2016, 11, e0152917.	1.1	20
8	Carboxyl Residues Required for Transport by a Vesicular Monoamine Transporter Homolog from Brevibacillus Brevis (BbMAT). Biophysical Journal, 2015, 108, 462a.	0.2	0
9	Specificity Determinants in Small Multidrug Transporters. Journal of Molecular Biology, 2015, 427, 468-477.	2.0	24
10	Functionally Important Carboxyls in a Bacterial Homologue of the Vesicular Monoamine Transporter (VMAT). Journal of Biological Chemistry, 2014, 289, 34229-34240.	1.6	9
11	Competition as a Way of Life for H+-Coupled Antiporters. Journal of Molecular Biology, 2014, 426, 2539-2546.	2.0	29
12	What Can a Living Fossil Tell Us About Evolution and Mechanism of Ion-Coupled Transporters: The Story of Small Multidrug Transporters. Springer Series in Biophysics, 2014, , 233-248.	0.4	4
13	Identification of molecular hinge points mediating alternating access in the vesicular monoamine transporter VMAT2. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1332-41.	3.3	40
14	Identification of Conformationally Sensitive Residues Essential for Inhibition of Vesicular Monoamine Transport by the Noncompetitive Inhibitor Tetrabenazine. Journal of Biological Chemistry, 2013, 288, 32160-32171.	1.6	21
15	Topology Determination of Untagged Membrane Proteins. Methods in Molecular Biology, 2013, 1033, 121-130.	0.4	19
16	New Substrates on the Block: Clinically Relevant Resistances for EmrE and Homologues. Journal of Bacteriology, 2012, 194, 6766-6770.	1.0	18
17	Transforming a drug/H ⁺ antiporter into a polyamine importer by a single mutation. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16894-16899.	3.3	39
18	Undecided membrane proteins insert in random topologies. Up, down and sideways: it does not really matter. Trends in Biochemical Sciences, 2012, 37, 215-219.	3.7	29

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19	Topologically Random Insertion of EmrE Supports a Pathway for Evolution of Inverted Repeats in Ion-coupled Transporters. Journal of Biological Chemistry, 2010, 285, 15234-15244.	1.6	51
20	Directed Evolution Reveals Hidden Properties of VMAT, a Neurotransmitter Transporter. Journal of Biological Chemistry, 2010, 285, 5076-5084.	1.6	24
21	Expression of neurotransmitter transporters for structural and biochemical studies. Protein Expression and Purification, 2010, 73, 152-160.	0.6	7
22	EmrE, a model for studying evolution and mechanism of ion-coupled transporters. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2009, 1794, 748-762.	1.1	143
23	In vitro Unfolding and Refolding of the Small Multidrug Transporter EmrE. Journal of Molecular Biology, 2009, 393, 815-832.	2.0	59
24	A coordinated network of transporters with overlapping specificities provides a robust survival strategy. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9051-9056.	3.3	172
25	Parallel topology of genetically fused EmrE homodimers. EMBO Journal, 2008, 27, 17-26.	3.5	48
26	Identification of a Glycine Motif Required for Packing in EmrE, a Multidrug Transporter from Escherichia coli. Journal of Biological Chemistry, 2008, 283, 12276-12283.	1.6	43
27	Expression and function of the rat vesicular monoamine transporter 2. American Journal of Physiology - Cell Physiology, 2008, 294, C1004-C1011.	2.1	27
28	Controversy Over EmrE Structure. Science, 2007, 317, 748-751.	6.0	22
29	The fast release of sticky protons: Kinetics of substrate binding and proton release in a multidrug transporter. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 17989-17994.	3.3	58
30	MAS solid-state NMR studies on the multidrug transporter EmrE. Biochimica Et Biophysica Acta - Biomembranes, 2007, 1768, 3036-3043.	1.4	29
31	When biochemistry meets structural biology: the cautionary tale of EmrE. Trends in Biochemical Sciences, 2007, 32, 252-258.	3.7	56
32	The ins and outs of drug transport. Nature, 2006, 443, 157-157.	13.7	21
33	On Parallel and Antiparallel Topology of a Homodimeric Multidrug Transporter. Journal of Biological Chemistry, 2006, 281, 36205-36212.	1.6	39
34	Identification of Tyrosine Residues Critical for the Function of an Ion-coupled Multidrug Transporter. Journal of Biological Chemistry, 2006, 281, 18715-18722.	1.6	42
35	Exploring the Role of a Unique Carboxyl Residue in EmrE by Mass Spectrometry. Journal of Biological Chemistry, 2005, 280, 7487-7492.	1.6	25
36	Exploring the Binding Domain of EmrE, the Smallest Multidrug Transporter. Journal of Biological Chemistry, 2005, 280, 32849-32855.	1.6	36

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37	Characterization of Bacterial Drug Antiporters Homologous to Mammalian Neurotransmitter Transporters. Journal of Bacteriology, 2005, 187, 7518-7525.	1.0	18
38	Substrate-Induced Tryptophan Fluorescence Changes in EmrE, the Smallest Ion-Coupled Multidrug Transporterâ€. Biochemistry, 2005, 44, 7369-7377.	1.2	53
39	3D Model of the Escherichia coli Multidrug Transporter MdfA Reveals an Essential Membrane-Embedded Positive Charge. Biochemistry, 2005, 44, 14870-14880.	1.2	41
40	Direct Evidence for Substrate-induced Proton Release in Detergent-solubilized EmrE, a Multidrug Transporter. Journal of Biological Chemistry, 2004, 279, 9951-9955.	1.6	65
41	In vitro synthesis of fully functional EmrE, a multidrug transporter, and study of its oligomeric state. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1519-1524.	3.3	135
42	EmrE, a Multidrug Transporter from Escherichia coli, Transports Monovalent and Divalent Substrates with the Same Stoichiometry. Journal of Biological Chemistry, 2004, 279, 48787-48793.	1.6	83
43	Structural conservation in the major facilitator superfamily as revealed by comparative modeling. Protein Science, 2004, 13, 1832-1840.	3.1	104
44	A Structural Model of EmrE, a Multi-Drug Transporter from Escherichia coli. Biophysical Journal, 2004, 86, 3335-3348.	0.2	30
45	The membrane topology of EmrE - a small multidrug transporter fromEscherichia coli. FEBS Letters, 2004, 562, 193-196.	1.3	49
46	Three-dimensional structure of the bacterial multidrug transporter EmrE shows it is an asymmetric homodimer. EMBO Journal, 2003, 22, 6175-6181.	3.5	186
47	An Amino Acid Cluster around the Essential Glu-14 Is Part of the Substrate- and Proton-binding Domain of EmrE, a Multidrug Transporter from Escherichia coli. Journal of Biological Chemistry, 2003, 278, 16082-16087.	1.6	59
48	Characterization of an Archaeal Multidrug Transporter with a Unique Amino Acid Composition. Journal of Biological Chemistry, 2003, 278, 12000-12005.	1.6	44
49	Crosslinking of membrane-embedded cysteines reveals contact points in the EmrE oligomer. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12043-12048.	3.3	83
50	Glycosylation of a Vesicular Monoamine Transporter: A Mutation in a Conserved Proline Residue Affects the Activity, Glycosylation, and Localization of the Transporter. Journal of Neurochemistry, 2002, 71, 2518-2527.	2.1	12
51	Vesicular monoamine transporters heterologously expressed in the yeast Saccharomyces cerevisiae display high-affinity tetrabenazine binding. Biochimica Et Biophysica Acta - Biomembranes, 2001, 1510, 426-441.	1.4	18
52	In Vitro Monomer Swapping in EmrE, a Multidrug Transporter from Escherichia coli, Reveals That the Oligomer Is the Functional Unit. Journal of Biological Chemistry, 2001, 276, 48243-48249.	1.6	65
53	Small is Mighty: EmrE, a Multidrug Transporter as an Experimental Paradigm. Physiology, 2001, 16, 130-134.	1.6	33
54	Functional Analysis of Novel Multidrug Transporters from Human Pathogens. Journal of Biological Chemistry, 2001, 276, 48250-48256.	1.6	62

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55	The projection structure of EmrE, a proton-linked multidrug transporter from Escherichia coli, at 7 A resolution. EMBO Journal, 2001, 20, 77-81.	3.5	101
56	A Single Carboxyl Mutant of the Multidrug Transporter EmrE Is Fully Functional. Journal of Biological Chemistry, 2001, 276, 12744-12748.	1.6	57
57	A membrane-embedded glutamate is required for ligand binding to the multidrug transporter EmrE. EMBO Journal, 2000, 19, 234-240.	3.5	187
58	An Essential Glutamyl Residue in EmrE, a Multidrug Antiporter from Escherichia coli. Journal of Biological Chemistry, 2000, 275, 5264-5269.	1.6	128
59	A Model for Coupling of H+ and Substrate Fluxes Based on â€œTime-Sharingâ€•of a Common Binding Site. Biochemistry, 2000, 39, 14711-14719.	1.2	85
60	A common binding site for substrates and protons in EmrE, an ion-coupled multidrug transporter. FEBS Letters, 2000, 476, 93-97.	1.3	67
61	31P-CP-MAS NMR studies on TPP+bound to the ion-coupled multidrug transport protein EmrE. FEBS Letters, 2000, 480, 127-131.	1.3	21
62	Scanning Cysteine Accessibility of EmrE, an H+-coupled Multidrug Transporter from Escherichia coli, Reveals a Hydrophobic Pathway for Solutes. Journal of Biological Chemistry, 1999, 274, 19480-19486.	1.6	94
63	Projection structure of NhaA, a secondary transporter from Escherichia coli, at 4.0 A resolution. EMBO Journal, 1999, 18, 3558-3563.	3.5	113
64	EmrE, a Small Escherichia coli Multidrug Transporter, Protects Saccharomyces cerevisiae from Toxins by Sequestration in the Vacuole. Journal of Bacteriology, 1999, 181, 949-956.	1.0	15
65	NMR investigation of the multidrug transporter EmrE, an integral membrane protein. FEBS Journal, 1998, 254, 610-619.	0.2	86
66	[4] Purification of vesicular monoamine transporters: From classical techniques to histidine tags. Methods in Enzymology, 1998, 296, 64-72.	0.4	3
67	Molecular and Biochemical Studies of Rat Vesicular Monoamine Transporter. Advances in Pharmacology, 1997, 42, 223-227.	1.2	7
68	Probing the Conformation of NhaA, a Na+/H+Antiporter fromEscherichia coli, with Trypsinâ€. Biochemistry, 1997, 36, 14572-14576.	1.2	44
69	Vesicular Neurotransmitter Transporters. , 1997, , 215-240.		2
70	Determining the Secondary Structure and Orientation of EmrE, a Multi-Drug Transporter, Indicates a Transmembrane Four-Helix Bundle. Biochemistry, 1996, 35, 7233-7238.	1.2	101
71	Identification of Residues in the Translocation Pathway of EmrE, a Multidrug Antiporter from Escherichia coli. Journal of Biological Chemistry, 1996, 271, 21193-21199.	1.6	27
72	Modification of the pH Profile and Tetrabenazine Sensitivity of Rat VMAT1 by Replacement of Aspartate 404 with Glutamate. Journal of Biological Chemistry, 1996, 271, 13048-13054.	1.6	45

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73	Topological Analysis of NhaA, a Na+/H+ Antiporter from Escherichia coli. Journal of Biological Chemistry, 1996, 271, 32288-32292.	1.6	62
74	Negative Dominance Studies Demonstrate the Oligomeric Structure of EmrE, a Multidrug Antiporter from Escherichia coli. Journal of Biological Chemistry, 1996, 271, 31044-31048.	1.6	109
75	EmrE, an Escherichia coli 12-kDa Multidrug Transporter, Exchanges Toxic Cations and H+ and Is Soluble in Organic Solvents. Journal of Biological Chemistry, 1995, 270, 6856-6863.	1.6	283
76	MH1, A Second-site Revertant of an Escherichia coli Mutant Lacking Na+/H+ Antiporters (Î”nhaAÎ”nhaB), Regains Na+ Resistance and a Capacity to Excrete Na+ in a Î”Î¼ÌƒH-independent Fashion. Journal of Biological Chemistry, 1995, 270, 3816-3822.	1.6	47
77	Replacements of Histidine 226 of NhaA-Na+/H+ Antiporter of Escherichia coli. Journal of Biological Chemistry, 1995, 270, 26813-26817.	1.6	42
78	Amiloride and harmaline are potent inhibitors of NhaB a Na+/H+antiporter fromEscherichia coli. FEBS Letters, 1995, 365, 18-22.	1.3	18
79	The pharmacological profile of the vesicular monoamine transporter resembles that of multidrug transporters. FEBS Letters, 1995, 377, 201-207.	1.3	67
80	From Bacterial Antibiotic Resistance to Neurotransmitter Uptake.. Annals of the New York Academy of Sciences, 1994, 733, 174-184.	1.8	8
81	Molecular biology of Na+/H+ antiporters: Molecular devices that couple the Na+ and H+ circulation in cells. Biochimica Et Biophysica Acta - Bioenergetics, 1994, 1187, 206-210.	0.5	17
82	Molecular physiology of Na+/H+ antiporters, key transporters in circulation of Na+ and H+ in cells. Biochimica Et Biophysica Acta - Bioenergetics, 1994, 1185, 129-151.	0.5	138
83	Histidine-419 plays a role in energy coupling in the vesicular monoamine transporter from rat. FEBS Letters, 1994, 356, 145-150.	1.3	33
84	Cloning and functional expression of a tetrabenazine sensitive vesicular monoamine transporter from bovine chromaffin granules. FEBS Letters, 1994, 338, 16-22.	1.3	63
85	A Molecular Glimpse of Vesicular Monoamine Transporters. Journal of Neurochemistry, 1994, 62, 2067-2078.	2.1	120
86	Histidine-226 is part of the pH sensor of NhaA, a Na+/H+ antiporter in Escherichia coli.. Proceedings of the National Academy of Sciences of the United States of America, 1993, 90, 1212-1216.	3.3	149
87	Homology of a vesicular amine transporter to a gene conferring resistance to 1-methyl-4-phenylpyridinium.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 9730-9733.	3.3	36
88	A cDNA that suppresses MPP+ toxicity encodes a vesicular amine transporter. Cell, 1992, 70, 539-551.	13.5	572
89	Modification of arginyl or histidyl groups affects the energy coupling of the amine transporter. Biochemistry, 1992, 31, 12500-12503.	1.2	15
90	Cloning, sequencing and expression of the nhaA and nhaR genes from Salmonella entiritidis. Archives of Microbiology, 1992, 157, 323-328.	1.0	33

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91	Covalent modification of the amine transporter with N,N'-dicyclohexylcarbodiimide. Biochemistry, 1991, 30, 6490-6494.	1.2	24
92	Energetics of reserpine binding and occlusion by the chromaffin granule biogenic amine transporter. Biochemistry, 1990, 29, 603-608.	1.2	91
93	Mechanism of Transport and Storage of Neurotransmitter. Critical Reviews in Biochemistry, 1987, 22, 1-38.	7.5	438
94	Characterization of a Na+/H+ antiporter gene of Escherichia coli.. Proceedings of the National Academy of Sciences of the United States of America, 1987, 84, 2615-2619.	3.3	226
95	The Amine Transporter from Bovine Chromaffin Granules: Photolabeling and Partial Purification. Annals of the New York Academy of Sciences, 1987, 493, 189-193.	1.8	7
96	Osmotic swelling allows fusion of Sendai virions with membranes of desialized erythrocytes and chromaffin granules. Biochemistry, 1987, 26, 3856-3864.	1.2	8
97	Intracellular pH and membrane potential as regulators in the prokaryotic cell. Journal of Membrane Biology, 1987, 95, 189-198.	1.0	81
98	[27] Intracellular pH regulation in bacterial cells. Methods in Enzymology, 1986, 125, 337-352.	0.4	66
99	Bacterial membrane potential analyzed by spectrofluorocytometry. Current Microbiology, 1985, 12, 183-185.	1.0	24
100	The Amine Transporter from Bovine Chromaffin Granules. Annals of the New York Academy of Sciences, 1985, 456, 268-276.	1.8	6
101	Escherichia coli intracellular pH, membrane potential, and cell growth. Journal of Bacteriology, 1984, 158, 246-252.	1.0	198
102	Na+/H+ antiport in Swiss 3T3 cells: mitogenic stimulation leads to cytoplasmic alkalinization.. Proceedings of the National Academy of Sciences of the United States of America, 1982, 79, 7778-7782.	3.3	286
103	How Does Escherichia coli Regulate Internal pH?. , 1982, , 65-73.		8
104	pH homesstasis in bacteria. BBA - Biomembranes, 1981, 650, 151-166.	7.9	403
105	A single locus inEscherichia coligoverns growth in alkaline pH and on carbon sources whose transport is sodium dependent. FEBS Letters, 1980, 116, 177-180.	1.3	52
106	Electrogenic transport of biogenic amines in chromaffin granule membrane vesicles. FEBS Letters, 1980, 111, 83-86.	1.3	39
107	Active Transport of Biogenic Amines in Chromaffin Granule Membrane Vesicles1. Frontiers of Neurology and Neuroscience, 1980, 7, 117-128.	3.0	2
108	The role of a transmembrane pH gradient in 5-hydroxy tryptamine uptake by synaptic vesicles from rat brain. FEBS Letters, 1979, 98, 237-240.	1.3	49

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109	Reserpine as a competitive and reversible inhibitor of the catecholamine transporter of bovine chromaffin granules. FEBS Letters, 1979, 100, 175-178.	1.3	71
110	Reconstitution of lac carrier function in cholate-extracted membranes from Escherichiacoli. Biochemical and Biophysical Research Communications, 1979, 91, 854-861.	1.0	15
111	Solubilization and reconstitution of the catecholamine transporter from bovine chromaffin granules. Biochemistry, 1979, 18, 4781-4785.	1.2	49
112	Proton electrochemical gradient in Escherichia coli cells and its relation to active transport of lactose. Biochemistry, 1979, 18, 669-673.	1.2	215
113	[74] The use of flow dialysis for determinations of Î”pH and active transport. Methods in Enzymology, 1979, 55, 680-688.	0.4	83
114	Sodium-proton antiport in isolated membrane vesicles of Escherichia coli. Biochemistry, 1978, 17, 706-711.	1.2	196
115	Role of a transmembrane pH gradient in epinephrine transport by chromaffin granule membrane vesicles.. Proceedings of the National Academy of Sciences of the United States of America, 1978, 75, 3713-3716.	3.3	113
116	Microenvironment of the binding site in the lac carrier protein.. Proceedings of the National Academy of Sciences of the United States of America, 1977, 74, 1851-1854.	3.3	13
117	Fluorescent galactosides as probes for the lac carrier protein. BBA - Biomembranes, 1977, 472, 399-418.	7.9	23
118	Equilibrium between two forms of the lac carrier protein in energized and nonenergized membrane vesicles from Escherichia coli. Biochemistry, 1976, 15, 5126-5131.	1.2	87
119	Energy-dependent binding of dansylgalactoside to the lac carrier protein: direct binding measurements.. Proceedings of the National Academy of Sciences of the United States of America, 1976, 73, 109-112.	3.3	36
120	The electrochemical gradient of protons and its relationship to active transport in Escherichia coli membrane vesicles.. Proceedings of the National Academy of Sciences of the United States of America, 1976, 73, 1892-1896.	3.3	341
121	Reversible effects of chaotropic agents on the proton permeability of Escherichia coli membrane vesicles.. Proceedings of the National Academy of Sciences of the United States of America, 1975, 72, 3387-3391.	3.3	61
122	ACTIVE TRANSPORT IN ISOLATED BACTERIAL MEMBRANE VESICLES: BINDING OF Î²-GALACTOSIDES TO THELACCARRIER PROTEIN. Annals of the New York Academy of Sciences, 1975, 264, 350-357.	1.8	4
123	Mechanisms of active transport in isolated bacterial membrane vesicles. 28. Membrane potential and active transport in membrane vesicles from Escherichia coli. Biochemistry, 1975, 14, 5451-5461.	1.2	341
124	Î”pH and membrane potential in bacterial chromatophores. FEBS Letters, 1974, 49, 174-177.	1.3	62
125	Stimulation of ATP Synthesis by a Membrane Potential in Chloroplasts. FEBS Journal, 1973, 39, 455-462.	0.2	66
126	Membrane potential as a driving force for ATP synthesis in chloroplasts. FEBS Letters, 1972, 28, 173-176.	1.3	51

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127	Determination of DeltapH in Chloroplasts. 2. Fluorescent Amines as a Probe for the Determination of DeltapH in Chloroplasts. FEBS Journal, 1972, 25, 64-70.	0.2	634
128	On the mechanism of the energy-dependent quenching of atebrin fluorescence in isolated chloroplasts. FEBS Letters, 1971, 14, 233-236.	1.3	42
129	Anion Permeability of Chloroplasts. FEBS Journal, 1971, 19, 227-231.	0.2	45
130	Photoreactions of Chloroplasts in a Glycine Medium. FEBS Journal, 1971, 22, 439-444.	0.2	26
131	Biogenesis of chloroplast membranes. III. Light-dependent induction of proton pump activity in whole cells and its correlation to cytochrome f photo-oxidation during greening of a Chlamydomonas reinhardti mutant (y-1). Biochimica Et Biophysica Acta - Bioenergetics, 1969, 180, 165-177.	0.5	40