Raquel L Lieberman

List of Publications by Year
in descending order

81 papers	3,522 citations	201575 27 h-index	143943 57 g-index
83 all docs	83 docs citations	83 times ranked	4449 citing authors

#	Article	IF	Citations
1	Crystal structure of a membrane-bound metalloenzyme that catalyses the biological oxidation of methane. Nature, 2005, 434, 177-182.	13.7	613
2	Automated Structure- and Sequence-Based Design of Proteins for High Bacterial Expression and Stability. Molecular Cell, 2016, 63, 337-346.	4.5	363
3	Consensus recommendations for trabecular meshwork cell isolation, characterization and culture. Experimental Eye Research, 2018, 171, 164-173.	1.2	221
4	Structure of acid Î²-glucosidase with pharmacological chaperone provides insight into Gaucher disease. Nature Chemical Biology, 2007, 3, 101-107.	3.9	213
5	Biological Methane Oxidation: Regulation, Biochemistry, and Active Site Structure of Particulate Methane Monooxygenase. Critical Reviews in Biochemistry and Molecular Biology, 2004, 39, 147-164.	2.3	184
6	Purified particulate methane monooxygenase from Methylococcus capsulatus (Bath) is a dimer with both mononuclear copper and a copper-containing cluster. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 3820-3825.	3.3	145
7	Effects of pH and Iminosugar Pharmacological Chaperones on Lysosomal Glycosidase Structure and Stability. Biochemistry, 2009, 48, 4816-4827.	1.2	128
8	Atomic Structure of a Fluorescent Ag₈ Cluster Templated by a Multistranded DNA Scaffold. Journal of the American Chemical Society, 2019, 141, 11465-11470.	6.6	112
9	Characterization of the Particulate Methane Monooxygenase Metal Centers in Multiple Redox States by X-ray Absorption Spectroscopy. Inorganic Chemistry, 2006, 45, 8372-8381.	1.9	89
10	Detection of ligand binding hot spots on protein surfaces via fragment-based methods: application to DJ-1 and glucocerebrosidase. Journal of Computer-Aided Molecular Design, 2009, 23, 491-500.	1.3	77
11	Structural basis for misfolding in myocilin-associated glaucoma. Human Molecular Genetics, 2015, 24, 2111-2124.	1.4	72
12	Glucose-regulated Protein 94 Triage of Mutant Myocilin through Endoplasmic Reticulum-associated Degradation Subverts a More Efficient Autophagic Clearance Mechanism. Journal of Biological Chemistry, 2012, 287, 40661-40669.	1.6	66
13	X-ray Crystallography and Biological Metal Centers:Â Is Seeing Believing?. Inorganic Chemistry, 2005, 44, 770-778.	1.9	59
14	Progranulin deficiency leads to reduced glucocerebrosidase activity. PLoS ONE, 2019, 14, e0212382.	1.1	57
15	Discovery of Molecular Therapeutics for Glaucoma: Challenges, Successes, and Promising Directions. Journal of Medicinal Chemistry, 2016, 59, 788-809.	2.9	55
16	Development of Glucose Regulated Protein 94-Selective Inhibitors Based on the BnIm and Radamide Scaffold. Journal of Medicinal Chemistry, 2016, 59, 3471-3488.	2.9	54
17	Molecular Basis of 1-Deoxygalactonojirimycin Arylthiourea Binding to Human Î±-Galactosidase A: Pharmacological Chaperoning Efficacy on Fabry Disease Mutants. ACS Chemical Biology, 2014, 9, 1460-1469.	1.6	50
18	Rescue of Glaucoma-Causing Mutant Myocilin Thermal Stability by Chemical Chaperones. ACS Chemical Biology, 2010, 5, 477-487.	1.6	49

#	Article	IF	Citations
19	Amyloid Fibril Formation by the Glaucoma-Associated Olfactomedin Domain of Myocilin. Journal of Molecular Biology, 2012, 421, 242-255.	2.0	48
20	The Stability of Myocilin Olfactomedin Domain Variants Provides New Insight into Glaucoma as a Protein Misfolding Disorder. Biochemistry, 2011, 50, 5824-5833.	1.2	47
21	Neutron scattering in the biological sciences: progress and prospects. Acta Crystallographica Section D: Structural Biology, 2018, 74, 1129-1168.	1.1	47
22	Binding of 3,4,5,6-Tetrahydroxyazepanes to the Acid-Î²-glucosidase Active Site: Implications for Pharmacological Chaperone Design for Gaucher Disease. Biochemistry, 2011, 50, 10647-10657.	1.2	38
23	Exploiting the interaction between Grp94 and aggregated myocilin to treat glaucoma. Human Molecular Genetics, 2014, 23, 6470-6480.	1.4	38
24	A Guided Tour of the Structural Biology of Gaucher Disease: Acid-Î²-Glucosidase and Saposin C. Enzyme Research, 2011, 2011, 1-15.	1.8	37
25	Biophysical Characterization of the Olfactomedin Domain of Myocilin, an Extracellular Matrix Protein Implicated in Inherited Forms of Glaucoma. PLoS ONE, 2011, 6, e16347.	1.1	34
26	Crystallization chaperone strategies for membrane proteins. Methods, 2011, 55, 293-302.	1.9	32
27	A blueprint for academic laboratories to produce SARS-CoV-2 quantitative RT-PCR test kits. Journal of Biological Chemistry, 2020, 295, 15438-15453.	1.6	31
28	The Glaucoma-Associated Olfactomedin Domain of Myocilin Forms Polymorphic Fibrils That Are Constrained by Partial Unfolding and Peptide Sequence. Journal of Molecular Biology, 2014, 426, 921-935.	2.0	30
29	Second Generation Grp94â€Selective Inhibitors Provide Opportunities for the Inhibition of Metastatic Cancer. Chemistry - A European Journal, 2017, 23, 15775-15782.	1.7	29
30	Synthesis, structure and magnetic properties of a chromium(III)î—¸nicotinamide complex [Cr3O(O2CCH3)6(na)3]+ (na=nicotinamide). Inorganica Chimica Acta, 2000, 297, 1-5.	1.2	28
31	Isoform-selective Hsp90 inhibition rescues model of hereditary open-angle glaucoma. Scientific Reports, 2017, 7, 17951.	1.6	28
32	De novo design of antibody complementarity determining regions binding a FLAG tetra-peptide. Scientific Reports, 2017, 7, 10295.	1.6	27
33	Structure and Misfolding of the Flexible Tripartite Coiled-Coil Domain of Glaucoma-Associated Myocilin. Structure, 2017, 25, 1697-1707.e5.	1.6	26
34	The Glaucoma-associated Olfactomedin Domain of Myocilin Is a Novel Calcium Binding Protein. Journal of Biological Chemistry, 2012, 287, 43370-43377.	1.6	25
35	Protein Structure and Function: An Interdisciplinary Multimedia-Based Guided-Inquiry Education Module for the High School Science Classroom. Journal of Chemical Education, 2014, 91, 52-55.	1.1	21
36	Consensus Recommendation for Mouse Models of Ocular Hypertension to Study Aqueous Humor Outflow and Its Mechanisms. , 2022, 63, 12.		20

#	Article	IF	Citations
37	Trifunctional High-Throughput Screen Identifies Promising Scaffold To Inhibit Grp94 and Treat Myocilin-Associated Glaucoma. ACS Chemical Biology, 2018, 13, 933-941.	1.6	17
38	Exploring substituent diversity on pyrrolidine-aryltriazole iminosugars: Structural basis of Î²-glucocerebrosidase inhibition. Bioorganic Chemistry, 2019, 86, 652-664.	2.0	17
39	Molecular Details of Olfactomedin Domains Provide Pathway to Structure-Function Studies. PLoS ONE, 2015, 10, e0130888.	1.1	16
40	Ligands for Glaucoma-Associated Myocilin Discovered by a Generic Binding Assay. ACS Chemical Biology, 2014, 9, 517-525.	1.6	15
41	Both positional and chemical variables control in vitro proteolytic cleavage of a presenilin ortholog. Journal of Biological Chemistry, 2018, 293, 4653-4663.	1.6	14
42	Catalytic Properties of Intramembrane Aspartyl Protease Substrate Hydrolysis Evaluated Using a FRET Peptide Cleavage Assay. ACS Chemical Biology, 2015, 10, 2166-2174.	1.6	13
43	Structural and biophysical characterization of an epitope-specific engineered Fab fragment and complexation with membrane proteins: implications for co-crystallization. Acta Crystallographica Section D: Biological Crystallography, 2015, 71, 896-906.	2.5	13
44	Stable calcium-free myocilin olfactomedin domain variants reveal challenges in differentiating between benign and glaucoma-causing mutations. Journal of Biological Chemistry, 2019, 294, 12717-12728.	1.6	13
45	Molecular Insights into Myocilin and Its Glaucoma-Causing Misfolded Olfactomedin Domain Variants. Accounts of Chemical Research, 2021, 54, 2205-2215.	7.6	13
46	Common and rare myocilin variants: Predicting glaucoma pathogenicity based on genetics, clinical, and laboratory misfolding data. Human Mutation, 2021, 42, 903-946.	1.1	13
47	Enzymatic hydrolysis by transition-metal-dependent nucleophilic aromatic substitution. Nature Chemical Biology, 2016, 12, 1031-1036.	3.9	12
48	Myocilin Regulates Metalloprotease 2 Activity Through Interaction With TIMP3. , 2017, 58, 5308.		12
49	Conversion of scFv peptide-binding specificity for crystal chaperone development. Protein Engineering, Design and Selection, 2011, 24, 419-428.	1.0	11
50	Solution Structure of an Intramembrane Aspartyl Protease via Small Angle Neutron Scattering. Biophysical Journal, 2018, 114, 602-608.	0.2	11
51	Different Grp94 components interact transiently with the myocilin olfactomedin domain in vitro to enhance or retard its amyloid aggregation. Scientific Reports, 2019, 9, 12769.	1.6	11
52	Increased Fab thermoresistance via V_H-targeted directed evolution. Protein Engineering, Design and Selection, 2015, 28, 365-377.	1.0	9
53	Simulations and Experiments Delineate Amyloid Fibrilization by Peptides Derived from Glaucoma-Associated Myocilin. Journal of Physical Chemistry B, 2018, 122, 5845-5850.	1.2	9
54	Differential Misfolding Properties of Glaucoma-Associated Olfactomedin Domains from Humans and Mice. Biochemistry, 2019, 58, 1718-1727.	1.2	9

#	Article	IF	Citations
55	Membrane-embedded protease poses for photoshoot. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 401-402.	3.3	8
56	Archaeal roots of intramembrane aspartyl protease siblings signal peptide peptidase and presenilin. Proteins: Structure, Function and Bioinformatics, 2021, 89, 232-241.	1.5	7
57	Determination of Soluble and Membrane Protein Structures by X-Ray Crystallography. Methods in Molecular Biology, 2013, 955, 475-493.	0.4	6
58	Calcium-ligand variants of the myocilin olfactomedin propeller selected from invertebrate phyla reveal cross-talk with N-terminal blade and surface helices. Acta Crystallographica Section D: Structural Biology, 2019, 75, 817-824.	1.1	6
59	Effects of protein engineering and rational mutagenesis on crystal lattice of single chain antibody fragments. Proteins: Structure, Function and Bioinformatics, 2014, 82, 1884-1895.	1.5	5
60	Epitope mapping of commercial antibodies that detect myocilin. Experimental Eye Research, 2018, 173, 109-112.	1.2	5
61	Progress toward development of a proteostasis drug for myocilin-associated glaucoma. Future Medicinal Chemistry, 2018, 10, 1391-1393.	1.1	5
62	Mainly on the Plane: Deep Subsurface Bacterial Proteins Bind and Alter Clathrate Structure. Crystal Growth and Design, 2020, 20, 6290-6295.	1.4	5
63	Optically Modulated and Optically Activated Delayed Fluorescent Proteins through Dark State Engineering. Journal of Physical Chemistry B, 2021, 125, 5200-5209.	1.2	5
64	Molecular architecture and modifications of full-length myocilin. Experimental Eye Research, 2021, 211, 108729.	1.2	5
65	From rhomboid function to structure and back again. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8199-8200.	3.3	4
66	Sneak peak at galactocerebrosidase, Krabbe disease's lysosomal hydrolase. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15017-15018.	3.3	4
67	How does a proteinâ€™s structure spell the difference between health and disease? Our journey to understand glaucoma-associated myocilin. PLoS Biology, 2019, 17, e3000237.	2.6	4
68	Calcium dysregulation potentiates wild-type myocilin misfolding: implications for glaucoma pathogenesis. Journal of Biological Inorganic Chemistry, 2022, 27, 553-564.	1.1	4
69	New direction for glaucoma therapeutics: focus on the olfactomedin domain of myocilin. Future Medicinal Chemistry, 2012, 4, 2131-2134.	1.1	3
70	Metal ion coordination in the E. coli Nudix hydrolase dihydroneopterin triphosphate pyrophosphatase: New clues into catalytic mechanism. PLoS ONE, 2017, 12, e0180241.	1.1	3
71	Substrateâ€"Enzyme Interactions in Intramembrane Proteolysis: Î³-Secretase as the Prototype. Frontiers in Molecular Neuroscience, 2020, 13, 65.	1.4	3
72	Improved resolution crystal structure of <i>Acanthamoeba</i> actophorin reveals structural plasticity not induced by microgravity. Acta Crystallographica Section F, Structural Biology Communications, 2021, 77, 452-458.	0.4	3

#	Article	IF	Citations
73	Catalytically active holo<i>Homo sapiens</i>adenosine deaminase I adopts a closed conformation. Acta Crystallographica Section D: Structural Biology, 2022, 78, 91-103.	1.1	3
74	Structure and activity of a thermally stable mutant of <i>Acanthamoeba</i> actophorin. Acta Crystallographica Section F, Structural Biology Communications, 2022, 78, 150-160.	0.4	2
75	Lessons from an Î±-Helical Membrane Enzyme: Expression, Purification, and Detergent Optimization for Biophysical and Structural Characterization. Methods in Molecular Biology, 2016, 1432, 281-301.	0.4	1
76	Contrast-Matching Detergent in Small-Angle Neutron Scattering Experiments for Membrane Protein Structural Analysis and Ab Initio Modeling. Journal of Visualized Experiments, 2018, , .	0.2	1
77	Antibodies Used to Detect Glaucoma-Associated Myocilin: More or Less Than Meets the Eye?. , 2019, 60, 2034.		1
78	Structural Arrangement within a Peptide Fibril Derived from the Glaucoma-Associated Myocilin Olfactomedin Domain. Journal of Physical Chemistry B, 2021, 125, 2886-2897.	1.2	1
79	Recombinant antibodies recognize conformation-dependent epitopes of the leucine zipper of misfolding-prone myocilin. Journal of Biological Chemistry, 2021, 297, 101067.	1.6	1
80	Preparation of a Deuterated Membrane Protein for Small-Angle Neutron Scattering. Methods in Molecular Biology, 2021, 2302, 219-235.	0.4	0
81	E. coli Ribonucleotide Reductase Î²2 Subunit Inactivation by Triapine Occurs through Binding of a Triapineâ€“Fe(II) Adduct. Journal of Physical Chemistry Letters, 2021, 12, 9020-9025.	2.1	0