Witold K Surewicz

List of Publications by Year
in descending order

121	9,513	28274 55	39675 94
papers	citations	h-index	g-index

125	125	125	6499
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Crystal structure of the human prion protein reveals a mechanism for oligomerization. Nature Structural Biology, 2001, 8, 770-774.	9.7	474
2	Molecular architecture of human prion protein amyloid: A parallel, in-register Î²-structure. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18946-18951.	7.1	302
3	Acceleration of Amyloid Fibril Formation by Specific Binding of AÎ²-(1â€“40) Peptide to Ganglioside-containing Membrane Vesicles. Journal of Biological Chemistry, 1997, 272, 22987-22990.	3.4	291
4	Temperature-induced exposure of hydrophobic surfaces and its effect on the chaperone activity of Î±-crystallin. FEBS Letters, 1995, 369, 321-325.	2.8	261
5	Interaction between Human Prion Protein and Amyloid-Î² (AÎ²) Oligomers. Journal of Biological Chemistry, 2010, 285, 26377-26383.	3.4	244
6	Fibril Conformation as the Basis of Species- and Strain-Dependent Seeding Specificity of Mammalian Prion Amyloids. Cell, 2005, 121, 63-72.	28.9	242
7	pH-dependent Stability and Conformation of the Recombinant Human Prion Protein PrP(90â€“231). Journal of Biological Chemistry, 1997, 272, 27517-27520.	3.4	239
8	The role of liquidâ€“liquid phase separation in aggregation of the TDP-43 low-complexity domain. Journal of Biological Chemistry, 2019, 294, 6306-6317.	3.4	238
9	Membrane Environment Alters the Conformational Structure of the Recombinant Human Prion Protein. Journal of Biological Chemistry, 1999, 274, 36859-36865.	3.4	230
10	beta-Sheet core of human prion protein amyloid fibrils as determined by hydrogen/deuterium exchange. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 1510-1515.	7.1	218
11	Aggregation and Fibrillization of the Recombinant Human Prion Protein huPrP90â^'231. Biochemistry, 2000, 39, 424-431.	2.5	216
12	Structural organization of brain-derived mammalian prions examined by hydrogen-deuterium exchange. Nature Structural and Molecular Biology, 2011, 18, 504-506.	8.2	206
13	Mammalian Prions Generated from Bacterially Expressed Prion Protein in the Absence of Any Mammalian Cofactors. Journal of Biological Chemistry, 2010, 285, 14083-14087.	3.4	195
14	Molecular conformation and dynamics of the Y145Stop variant of human prion protein in amyloid fibrils. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6284-6289.	7.1	182
15	Prion Diseases and Their Biochemical Mechanisms. Biochemistry, 2009, 48, 2574-2585.	2.5	181
16	Familial Mutations and the Thermodynamic Stability of the Recombinant Human Prion Protein. Journal of Biological Chemistry, 1998, 273, 31048-31052.	3.4	176
17	The interaction between Alzheimer amyloid Î²(1â€“40) peptide and ganglioside G_{M1}â€containing membranes. FEBS Letters, 1997, 402, 95-98.	2.8	169
18	Rapidly progressive Alzheimerâ€™s disease features distinct structures of amyloid-Î². Brain, 2015, 138, 1009-1022.	7.6	166

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19	The Prion Protein Has RNA Binding and Chaperoning Properties Characteristic of Nucleocapsid Protein NCp7 of HIV-1. Journal of Biological Chemistry, 2001, 276, 19301-19309.	3.4	163
20	Liquidâ€“Liquid Phase Separation and Its Mechanistic Role in Pathological Protein Aggregation. Journal of Molecular Biology, 2020, 432, 1910-1925.	4.2	163
21	Temperature-dependent Chaperone Activity and Structural Properties of Human Î±A- and Î±B-crystallins. Journal of Biological Chemistry, 2000, 275, 4565-4570.	3.4	157
22	On the Mechanism of Î±-Helix to Î²-Sheet Transition in the Recombinant Prion Proteinâ€. Biochemistry, 2001, 40, 6982-6987.	2.5	155
23	Liquidâ€“liquid phase separation of tau protein: The crucial role of electrostatic interactions. Journal of Biological Chemistry, 2019, 294, 11054-11059.	3.4	155
24	The Effect of Disease-associated Mutations on the Folding Pathway of Human Prion Protein. Journal of Biological Chemistry, 2004, 279, 18008-18014.	3.4	144
25	Molecular Basis of Barriers for Interspecies Transmissibility of Mammalian Prions. Molecular Cell, 2004, 14, 139-145.	9.7	129
26	Conformational Flexibility of Y145Stop Human Prion Protein Amyloid Fibrils Probed by Solid-State Nuclear Magnetic Resonance Spectroscopy. Journal of the American Chemical Society, 2010, 132, 2393-2403.	13.7	126
27	Solution Structure of the E200K Variant of Human Prion Protein. Journal of Biological Chemistry, 2000, 275, 33650-33654.	3.4	120
28	The prion protein has DNA strand transfer properties similar to retroviral nucleocapsid protein 1 1Edited by J. Karn. Journal of Molecular Biology, 2001, 307, 1011-1021.	4.2	118
29	Mechanisms of Neurotoxicity Associated with Amyloid Î² Deposition and the Role of Free Radicals in the Pathogenesis of Alzheimer's Disease:â€‰ A Critical Appraisal. Chemical Research in Toxicology, 1997, 10, 518-526.	3.3	110
30	Identification of an epitope in the C terminus of normal prion protein whose expression is modulated by binding events in the N terminus 1 1Edited by F. Cohen. Journal of Molecular Biology, 2000, 301, 567-573.	4.2	110
31	Conformational diversity in prion protein variants influences intermolecular Î²-sheet formation. EMBO Journal, 2010, 29, 251-262.	7.8	105
32	The Role of Disulfide Bridge in the Folding and Stability of the Recombinant Human Prion Protein. Journal of Biological Chemistry, 2001, 276, 2427-2431.	3.4	100
33	Molecular biology and pathology of prion strains in sporadic human prion diseases. Acta Neuropathologica, 2011, 121, 79-90.	7.7	96
34	Small molecules as potent biphasic modulators of protein liquid-liquid phase separation. Nature Communications, 2020, 11, 5574.	12.8	96
35	Nucleation-dependent conformational conversion of the Y145Stop variant of human prion protein: Structural clues for prion propagation. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 12069-12074.	7.1	92
36	Conformational Properties of Substrate Proteins Bound to a Molecular Chaperone Î±-Crystallin. Journal of Biological Chemistry, 1996, 271, 10449-10452.	3.4	89

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37	DNA Aptamers That Bind to PrP^C and Not Prp^{Sc} Show Sequence and Structure Specificity. Experimental Biology and Medicine, 2006, 231, 204-214.	2.4	89
38	Cryo-EM structure of amyloid fibrils formed by the entire low complexity domain of TDP-43. Nature Communications, 2021, 12, 1620.	12.8	85
39	Unusual proteolysis of the protoxin and toxin from Bacillus thuringiensis. Structural implications. FEBS Journal, 1990, 189, 523-527.	0.2	84
40	Kinetic Intermediate in the Folding of Human Prion Protein. Journal of Biological Chemistry, 2002, 277, 44589-44592.	3.4	83
41	Zinc promotes liquidâ€“liquid phase separation of tau protein. Journal of Biological Chemistry, 2020, 295, 5850-5856.	3.4	80
42	Soluble Prion Protein Inhibits Amyloid-Î² (AÎ²) Fibrillization and Toxicity. Journal of Biological Chemistry, 2012, 287, 33104-33108.	3.4	79
43	Distinct Structures of Scrapie Prion Protein (PrPSc)-seeded Versus Spontaneous Recombinant Prion Protein Fibrils Revealed by Hydrogen/Deuterium Exchange. Journal of Biological Chemistry, 2009, 284, 24233-24241.	3.4	78
44	Polymorphism at Residue 129 Modulates the Conformational Conversion of the D178N Variant of Human Prion Protein 90â¯231â€. Biochemistry, 2005, 44, 15880-15888.	2.5	76
45	Antimicrobial Activity of Human Prion Protein Is Mediated by Its N-Terminal Region. PLoS ONE, 2009, 4, e7358.	2.5	73
46	Atypical Effect of Salts on the Thermodynamic Stability of Human Prion Protein. Journal of Biological Chemistry, 2003, 278, 22187-22192.	3.4	72
47	Prion Protein and Its Conformational Conversion: A Structural Perspective. Topics in Current Chemistry, 2011, 305, 135-167.	4.0	72
48	Small Protease Sensitive Oligomers of PrPSc in Distinct Human Prions Determine Conversion Rate of PrPC. PLoS Pathogens, 2012, 8, e1002835.	4.7	72
49	Regulatory mechanisms of tau protein fibrillation under the conditions of liquidâ€“liquid phase separation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31882-31890.	7.1	70
50	Conformational properties of azurin in solution as determined from resolution-enhanced Fourier-transform infrared spectra. FEBS Journal, 1987, 167, 519-523.	0.2	68
51	Amyloid fibrils from the N-terminal prion protein fragment are infectious. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13851-13856.	7.1	68
52	Disease-associated F198S Mutation Increases the Propensity of the Recombinant Prion Protein for Conformational Conversion to Scrapie-like Form. Journal of Biological Chemistry, 2002, 277, 49065-49070.	3.4	67
53	Early Intermediate in Human Prion Protein Folding As Evidenced by Ultrarapid Mixing Experiments. Journal of the American Chemical Society, 2006, 128, 11673-11678.	13.7	65
54	Prion Protein Amyloid Formation under Native-like Conditions Involves Refolding of the C-terminal Î±-Helical Domain. Journal of Biological Chemistry, 2008, 283, 34704-34711.	3.4	59

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55	Species-dependent structural polymorphism of Y145Stop prion protein amyloid revealed by solid-state NMR spectroscopy. Nature Communications, 2017, 8, 753.	12.8	59
56	Intermolecular Alignment in Y145Stop Human Prion Protein Amyloid Fibrils Probed by Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2011, 133, 13934-13937.	13.7	57
57	Crystal Structure of a Human Prion Protein Fragment Reveals a Motif for Oligomer Formation. Journal of the American Chemical Society, 2013, 135, 10202-10205.	13.7	55
58	The Emerging Principles of Mammalian Prion Propagation and Transmissibility Barriers:â€‰ Insight from Studies in Vitro. Accounts of Chemical Research, 2006, 39, 654-662.	15.6	53
59	PrP Conformational Transitions Alter Species Preference of a PrP-specific Antibody. Journal of Biological Chemistry, 2010, 285, 13874-13884.	3.4	50
60	Insight into the Secondary Structure of Non-native Proteins Bound to a Molecular Chaperone Î±-Crystallin. Journal of Biological Chemistry, 1999, 274, 33209-33212.	3.4	48
61	Structural Determinants of Phenotypic Diversity and Replication Rate of Human Prions. PLoS Pathogens, 2015, 11, e1004832.	4.7	47
62	Conformational Stability of Mammalian Prion Protein Amyloid Fibrils Is Dictated by a Packing Polymorphism within the Core Region. Journal of Biological Chemistry, 2014, 289, 2643-2650.	3.4	46
63	Early preclinical detection of prions in the skin of prion-infected animals. Nature Communications, 2019, 10, 247.	12.8	46
64	Tau liquidâ€“liquid phase separation in neurodegenerative diseases. Trends in Cell Biology, 2022, 32, 611-623.	7.9	46
65	Cellular Prion Protein Regulates Its Own Î±-Cleavage through ADAM8 in Skeletal Muscle. Journal of Biological Chemistry, 2012, 287, 16510-16520.	3.4	42
66	The conformation of dynorphin A-(1â€“13) in aqueous solution as studied by fourier transform infrared spectroscopy. Journal of Molecular Structure, 1989, 214, 143-147.	3.6	41
67	Scanâ€rate dependence in protein calorimetry: The reversible transitions of Bacillus circulans xylanase and a disulfideâ€bridge mutant. Protein Science, 1998, 7, 1538-1544.	7.6	40
68	Soluble prion protein and its N-terminal fragment prevent impairment of synaptic plasticity by AÎ² oligomers: Implications for novel therapeutic strategy in Alzheimer's disease. Neurobiology of Disease, 2016, 91, 124-131.	4.4	40
69	A Metastable Contact and Structural Disorder in the Estrogen Receptor Transactivation Domain. Structure, 2019, 27, 229-240.e4.	3.3	39
70	Functional Interactions of Nucleocapsid Protein of Feline Immunodeficiency Virus and Cellular Prion Protein with the Viral RNA. Journal of Molecular Biology, 2002, 318, 149-159.	4.2	38
71	Structural Polymorphism in Amyloids. Journal of Biological Chemistry, 2011, 286, 42777-42784.	3.4	38
72	Cellular Oxidant Stress and Advanced Glycation Endproducts of Albumin: Caveats of the Dichlorofluorescein Assay*. Archives of Biochemistry and Biophysics, 2002, 400, 15-25.	3.0	37

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73	Conformational properties of angiotensin II in aqueous solution and in a lipid environment: a Fourier transform infrared spectroscopic investigation. Journal of the American Chemical Society, 1988, 110, 4412-4414.	13.7	35
74	The prion 2018 round tables (I): the structure of PrP^{Sc}. Prion, 2019, 13, 46-52.	1.8	34
75	The role of glycophosphatidylinositol anchor in the amplification of the scrapie isoform of prion protein in vitro. FEBS Letters, 2009, 583, 3671-3675.	2.8	33
76	Artificial strain of human prions created in vitro. Nature Communications, 2018, 9, 2166.	12.8	33
77	Structural Studies of Amyloid Fibrils by Paramagnetic Solid-State Nuclear Magnetic Resonance Spectroscopy. Journal of the American Chemical Society, 2018, 140, 13161-13166.	13.7	32
78	Genetically Engineered Zinc-chelating Adenylate Kinase fromEscherichia coli with Enhanced Thermal Stability. Journal of Biological Chemistry, 1998, 273, 19097-19101.	3.4	31
79	Role of N-terminal Familial Mutations in Prion Protein Fibrillization and Prion Amyloid Propagation in Vitro*. Journal of Biological Chemistry, 2006, 281, 8190-8196.	3.4	31
80	Self-propagating, protease-resistant, recombinant prion protein conformers with or without in vivo pathogenicity. PLoS Pathogens, 2017, 13, e1006491.	4.7	31
81	Post-translational modifications in PrP expand the conformational diversity of prions in vivo. Scientific Reports, 2017, 7, 43295.	3.3	30
82	Enhanced neuroinvasion by smaller, soluble prions. Acta Neuropathologica Communications, 2017, 5, 32.	5.2	29
83	Membrane interactions and surface hydrophobicity ofBacillus thuringiensisÎ´-endotoxin CryIC. FEBS Letters, 1994, 340, 89-92.	2.8	28
84	Interaction between Prion Protein and AÎ² Amyloid Fibrils Revisited. ACS Chemical Neuroscience, 2014, 5, 340-345.	3.5	28
85	Recombinant Human Prion Protein Inhibits Prion Propagation in vitro. Scientific Reports, 2013, 3, 2911.	3.3	27
86	Structural attributes of mammalian prion infectivity: Insights from studies with synthetic prions. Journal of Biological Chemistry, 2018, 293, 18494-18503.	3.4	26
87	Effect of phase transitions on the interaction of peptides and proteins with phospholipids. Canadian Journal of Biochemistry and Cell Biology, 1984, 62, 1167-1173.	1.3	25
88	Single amino acid substitutions can further increase the stability of a thermophilic L-lactate dehydrogenase. Protein Engineering, Design and Selection, 1992, 5, 769-774.	2.1	24
89	Solution and membrane structure of enkephalins as studied by infrared spectroscopy. Biochemical and Biophysical Research Communications, 1988, 150, 245-251.	2.1	23
90	Gerstmann-StrÃussler-Scheinker disease revisited: accumulation of covalently-linked multimers of internal prion protein fragments. Acta Neuropathologica Communications, 2019, 7, 85.	5.2	22

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91	13C and 15N chemical shift assignments of mammalian Y145Stop prion protein amyloid fibrils. Biomolecular NMR Assignments, 2017, 11, 75-80.	0.8	21
92	Conformational Dynamics in the Core of Human Y145Stop Prion Protein Amyloid Probed by Relaxation Dispersion NMR. ChemPhysChem, 2019, 20, 311-317.	2.1	21
93	Conformational Correlates of the Epitopes of Human Myelin Basic Protein Peptide 80?89. Journal of Neurochemistry, 1990, 55, 568-576.	3.9	20
94	Nanomechanical Properties of Human Prion Protein Amyloid as Probed by Force Spectroscopy. Biophysical Journal, 2008, 95, 2909-2915.	0.5	20
95	Protein-solvent interfaces in human Y145Stop prion protein amyloid fibrils probed by paramagnetic solid-state NMR spectroscopy. Journal of Structural Biology, 2019, 206, 36-42.	2.8	20
96	Soluble Prion Protein Binds Isolated Low Molecular Weight Amyloid-Î² Oligomers Causing Cytotoxicity Inhibition. ACS Chemical Neuroscience, 2015, 6, 1972-1980.	3.5	19
97	The toxic moiety of the Bacillus thuringiensis protoxin undergoes a conformational change upon activation. Biochemical and Biophysical Research Communications, 1991, 179, 933-938.	2.1	18
98	Mechanism of stabilization of Bacillus circulans xylanase upon the introduction of disulfide bonds. Biophysical Chemistry, 2007, 125, 453-461.	2.8	18
99	Effect of Lipid Structure on the Capacity of Myelin Basic Protein to Alter Vesicle Properties: Potent Effects of Aliphatic Aldehydes in Promoting Basic Protein-Induced Vesicle Aggregation. Journal of Neurochemistry, 1984, 43, 1550-1555.	3.9	17
100	Secondary structure of the entomocidal toxin fromBacillus thuringiensis subsp.kurstaki HD-73. The Protein Journal, 1990, 9, 87-94.	1.1	17
101	Membrane actions of water-soluble fusogens: Effect of dimethyl sulfoxide, glycerol and sucrose on lipid bilayer order and fluidity. Chemistry and Physics of Lipids, 1984, 34, 363-372.	3.2	15
102	Interaction of Shigella toxin with globotriaosyl ceramide receptor â€" Containing membranes: A fluorescence study. Biochemical and Biophysical Research Communications, 1989, 160, 126-132.	2.1	15
103	The effect of Î²2â€Î±2 loop mutation on amyloidogenic properties of the prion protein. FEBS Letters, 2013, 587, 2918-2923.	2.8	14
104	Identification of prion protein-derived peptides of potential use in Alzheimer's disease therapy. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2018, 1864, 2143-2153.	3.8	14
105	Electron spin resonance study on the mechanism of polyethylene glycol-membrane interaction. FEBS Letters, 1983, 151, 228-232.	2.8	13
106	Pharmacological Modulation of Three Modalities of CA1 Hippocampal Long-Term Potentiation in the Ts65Dn Mouse Model of Down Syndrome. Neural Plasticity, 2018, 2018, 1-14.	2.2	12
107	A novel mechanism of phenotypic heterogeneity in Creutzfeldt-Jakob disease. Acta Neuropathologica Communications, 2020, 8, 85.	5.2	12
108	Studying Protein Aggregation in the Context of Liquid-liquid Phase Separation Using Fluorescence and Atomic Force Microscopy, Fluorescence and Turbidity Assays, and FRAP. Bio-protocol, 2020, 10, .	0.4	11

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109	Propranolol-induced structural changes in human erythrocyte ghost membranes. Biochemical Pharmacology, 1982, 31, 691-694.	4.4	10
110	Effect of quinidine on membrane properties. Biochemical Pharmacology, 1983, 32, 1467-1471.	4.4	10
111	Effect of osmotic gradient on the physical properties of membrane lipids in liposomes. Chemistry and Physics of Lipids, 1983, 33, 81-85.	3.2	9
112	Role of peptide structure in lipid-peptide interactions: nuclear magnetic resonance study of the interaction of pentagastrin and [Arg4]pentagastrin with dimyristolyphosphatidylcholine. Chemistry and Physics of Lipids, 1988, 49, 105-110.	3.2	7
113	Prion strains under the magnifying glass. Nature Structural and Molecular Biology, 2007, 14, 882-884.	8.2	6
114	From Neurodegeneration to Brain Health: AnÂIntegrated Approach. Journal of Alzheimer's Disease, 2015, 46, 271-283.	2.6	6
115	Structural and physico-chemical characteristics of Bordetella pertussis adenylate kinase, a tryptophan-containing enzyme. FEBS Journal, 1993, 218, 921-927.	0.2	4
116	Soluble polymorphic bank vole prion proteins induced by co-expression of quiescin sulfhydryl oxidase in E. coli and their aggregation behaviors. Microbial Cell Factories, 2017, 16, 170.	4.0	4
117	Discriminating taste of prions. Nature, 2007, 447, 541-542.	27.8	2
118	The effect of local anaesthetics on the osmotic fragility of liposomes. Biochemical Pharmacology, 1982, 31, 2999-3000.	4.4	1
119	13C and 15N chemical shift assignments of A117V and M129V human Y145Stop prion protein amyloid fibrils. Biomolecular NMR Assignments, 2021, 15, 45-51.	0.8	1
120	Influence of the Dynamically Disordered N-Terminal Tail Domain on the Amyloid Core Structure of Human Y145Stop Prion Protein Fibrils. Frontiers in Molecular Biosciences, 2022, 9, 841790.	3.5	1
121	Reply to Kascsak: Definition of the PrP 3F4 Epitope Revisited. Journal of Biological Chemistry, 2010, 285, le6.	3.4	0