Lukas K Tamm

List of Publications by Year
in descending order

139 papers	11,254 citations	20817 60 h-index	31849 101 g-index
162 all docs	162 docs citations	162 times ranked	9016 citing authors

#	Article	IF	Citations
1	Infrared spectroscopy of proteins and peptides in lipid bilayers. Quarterly Reviews of Biophysics, 1997, 30, 365-429.	5.7	609
2	Formation of supported planar bilayers by fusion of vesicles to supported phospholipid monolayers. Biochimica Et Biophysica Acta - Biomembranes, 1992, 1103, 307-316.	2.6	532
3	Tethered Polymer-Supported Planar Lipid Bilayers for Reconstitution of Integral Membrane Proteins: Silane-Polyethyleneglycol-Lipid as a Cushion and Covalent Linker. Biophysical Journal, 2000, 79, 1400-1414.	0.5	493
4	Membrane structure and fusion-triggering conformational change of the fusion domain from influenza hemagglutinin. Nature Structural Biology, 2001, 8, 715-720.	9.7	406
5	Structure of outer membrane protein A transmembrane domain by NMR spectroscopy. Nature Structural Biology, 2001, 8, 334-338.	9.7	363
6	The role of cholesterol in membrane fusion. Chemistry and Physics of Lipids, 2016, 199, 136-143.	3.2	279
7	Role of Cholesterol in the Formation and Nature of Lipid Rafts in Planar and Spherical Model Membranes. Biophysical Journal, 2004, 86, 2965-2979.	0.5	270
8	Folding and assembly of Î²-barrel membrane proteins. Biochimica Et Biophysica Acta - Biomembranes, 2004, 1666, 250-263.	2.6	263
9	Transbilayer Effects of Raft-Like Lipid Domains in Asymmetric Planar Bilayers Measured by Single Molecule Tracking. Biophysical Journal, 2006, 91, 3313-3326.	0.5	211
10	Elastic coupling of integral membrane protein stability to lipid bilayer forces. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4065-4070.	7.1	210
11	The Outer Membrane Protein OmpW Forms an Eight-stranded Î²-Barrel with a Hydrophobic Channel. Journal of Biological Chemistry, 2006, 281, 7568-7577.	3.4	204
12	Domain coupling in asymmetric lipid bilayers. Biochimica Et Biophysica Acta - Biomembranes, 2009, 1788, 64-71.	2.6	194
13	HIV gp41â€"mediated membrane fusion occurs at edges of cholesterol-rich lipid domains. Nature Chemical Biology, 2015, 11, 424-431.	8.0	175
14	Measuring Distances in Supported Bilayers by Fluorescence Interference-Contrast Microscopy: Polymer Supports and SNARE Proteins. Biophysical Journal, 2003, 84, 408-418.	0.5	174
15	Membrane fusion: a structural perspective on the interplay of lipids and proteins. Current Opinion in Structural Biology, 2003, 13, 453-466.	5.7	172
16	Folding Intermediates of a Î²-Barrel Membrane Protein. Kinetic Evidence for a Multi-Step Membrane Insertion Mechanismâ€,â€¡. Biochemistry, 1996, 35, 12993-13000.	2.5	163
17	Secondary and Tertiary Structure Formation of the Î²-Barrel Membrane Protein OmpA is Synchronized and Depends on Membrane Thickness. Journal of Molecular Biology, 2002, 324, 319-330.	4.2	159
18	Biophysical approaches to membrane protein structure determination. Current Opinion in Structural Biology, 2001, 11, 540-547.	5.7	158

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19	Reconstituted Syntaxin1A/SNAP25 Interacts with Negatively Charged Lipids as Measured by Lateral Diffusion in Planar Supported Bilayers. Biophysical Journal, 2001, 81, 266-275.	0.5	154
20	Site-Directed Parallel Spin-Labeling and Paramagnetic Relaxation Enhancement in Structure Determination of Membrane Proteins by Solution NMR Spectroscopy. Journal of the American Chemical Society, 2006, 128, 4389-4397.	13.7	149
21	Role of Aromatic Side Chains in the Folding and Thermodynamic Stability of Integral Membrane Proteins. Journal of the American Chemical Society, 2007, 129, 8320-8327.	13.7	149
22	Single Vesicle Millisecond Fusion Kinetics Reveals Number of SNARE Complexes Optimal for Fast SNARE-mediated Membrane Fusion. Journal of Biological Chemistry, 2009, 284, 32158-32166.	3.4	148
23	Refolded Outer Membrane Protein A of Escherichia coliForms Ion Channels with Two Conductance States in Planar Lipid Bilayers. Journal of Biological Chemistry, 2000, 275, 1594-1600.	3.4	145
24	Outer Membrane Protein A of Escherichia coli Inserts and Folds into Lipid Bilayers by a Concerted Mechanism. Biochemistry, 1999, 38, 5006-5016.	2.5	139
25	Structure of outer membrane protein G by solution NMR spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 16140-16145.	7.1	139
26	Outer membrane protein A of <i>E. coli</i> folds into detergent micelles, but not in the presence of monomeric detergent. Protein Science, 1999, 8, 2065-2071.	7.6	130
27	Peptide mimics of SNARE transmembrane segments drive membrane fusion depending on their conformational plasticity. Journal of Molecular Biology, 2001, 311, 709-721.	4.2	130
28	Measuring Lipid Asymmetry in Planar Supported Bilayers by Fluorescence Interference Contrast Microscopy. Langmuir, 2005, 21, 1377-1388.	3.5	128
29	Structure and Assembly of Î²-Barrel Membrane Proteins. Journal of Biological Chemistry, 2001, 276, 32399-32402.	3.4	122
30	Line tension at lipid phase boundaries as driving force for HIV fusion peptide-mediated fusion. Nature Communications, 2016, 7, 11401.	12.8	120
31	A quantized mechanism for activation of pannexin channels. Nature Communications, 2017, 8, 14324.	12.8	120
32	Electrostatic couplings in OmpA ion-channel gating suggest a mechanism for pore opening. , 2006, 2, 627-635.		118
33	Fusion Peptide of Influenza Hemagglutinin Requires a Fixed Angle Boomerang Structure for Activity. Journal of Biological Chemistry, 2006, 281, 5760-5770.	3.4	117
34	Secondary Structure, Orientation, Oligomerization, and Lipid Interactions of the Transmembrane Domain of Influenza Hemagglutinin. Biochemistry, 2000, 39, 496-507.	2.5	115
35	Clustering of Syntaxin-1A in Model Membranes Is Modulated by Phosphatidylinositol 4,5-Bisphosphate and Cholesterol. Biochemistry, 2009, 48, 4617-4625.	2.5	108
36	Structure and function of the complete internal fusion loop from Ebolavirus glycoprotein 2. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11211-11216.	7.1	108

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37	Time-Resolved Distance Determination by Tryptophan Fluorescence Quenching:â€‰ Probing Intermediates in Membrane Protein Folding. Biochemistry, 1999, 38, 4996-5005.	2.5	106
38	Dynamic structure of lipid-bound synaptobrevin suggests a nucleation-propagation mechanism for trans-SNARE complex formation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20306-20311.	7.1	102
39	Characterization of two membrane-bound forms of OmpA. Biochemistry, 1995, 34, 1921-1929.	2.5	101
40	Membrane insertion and lateral mobility of synthetic amphiphilic signal peptides in lipid model membranes. BBA - Biomembranes, 1991, 1071, 123-148.	8.0	100
41	Coupling of Cholesterol-Rich Lipid Phases in Asymmetric Bilayers. Biochemistry, 2008, 47, 2190-2198.	2.5	95
42	HIV virions sense plasma membrane heterogeneity for cell entry. Science Advances, 2017, 3, e1700338.	10.3	95
43	Fusion Activity of HIV gp41 Fusion Domain Is Related to Its Secondary Structure and Depth of Membrane Insertion in a Cholesterol-Dependent Fashion. Journal of Molecular Biology, 2012, 418, 3-15.	4.2	94
44	NMR as a tool to investigate the structure, dynamics and function of membrane proteins. Nature Structural and Molecular Biology, 2016, 23, 468-474.	8.2	92
45	Structure and Plasticity of the Human Immunodeficiency Virus gp41 Fusion Domain in Lipid Micelles and Bilayers. Biophysical Journal, 2007, 93, 876-885.	0.5	91
46	Structure and function of membrane fusion peptides. Biopolymers, 2002, 66, 249-260.	2.4	88
47	Viral Fusion Peptides: A Tool Set to Disrupt and Connect Biological Membranes. Bioscience Reports, 2000, 20, 501-518.	2.4	86
48	De novo design of transmembrane Î² barrels. Science, 2021, 371, .	12.6	83
49	Variable cooperativity in SNARE-mediated membrane fusion. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12037-12042.	7.1	81
50	Hypothesis: spring-loaded boomerang mechanism of influenza hemagglutinin-mediated membrane fusion. Biochimica Et Biophysica Acta - Biomembranes, 2003, 1614, 14-23.	2.6	77
51	Orientation of functional and nonfunctional PTS permease signal sequences in lipid bilayers. A polarized attenuated total reflection infrared study. Biochemistry, 1993, 32, 7720-7726.	2.5	76
52	Increasing the Accuracy of Solution NMR Structures of Membrane Proteins by Application of Residual Dipolar Couplings. High-Resolution Structure of Outer Membrane Protein A. Journal of the American Chemical Society, 2006, 128, 6947-6951.	13.7	75
53	pH-dependent Self-association of Influenza Hemagglutinin Fusion Peptides in Lipid Bilayers. Journal of Molecular Biology, 2000, 304, 953-965.	4.2	73
54	Thermodynamics of Fusion Peptideâ^'Membrane Interactionsâ€. Biochemistry, 2003, 42, 7245-7251.	2.5	73

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55	Interaction of Mutant Influenza Virus Hemagglutinin Fusion Peptides with Lipid Bilayers:Â Probing the Role of Hydrophobic Residue Size in the Central Region of the Fusion Peptideâ€. Biochemistry, 1999, 38, 15052-15059.	2.5	69
56	Structural Transitions in Short-Chain Lipid Assemblies Studied by 31P-NMR Spectroscopy. Biophysical Journal, 2002, 83, 994-1003.	0.5	69
57	Chapter 8 Methods for Measuring the Thermodynamic Stability of Membrane Proteins. Methods in Enzymology, 2009, 455, 213-236.	1.0	68
58	Membrane Structures of the Hemifusion-Inducing Fusion Peptide Mutant G1S and theFusion-Blocking Mutant G1V of Influenza Virus HemagglutininSuggest a Mechanism for Pore Opening in MembraneFusion. Journal of Virology, 2005, 79, 12065-12076.	3.4	66
59	NMR of membrane proteins in solution. Progress in Nuclear Magnetic Resonance Spectroscopy, 2006, 48, 201-210.	7.5	65
60	Structural Basis for the Interaction of Lipopolysaccharide with Outer Membrane Protein H (OprH) from Pseudomonas aeruginosa. Journal of Biological Chemistry, 2011, 286, 39211-39223.	3.4	65
61	Docking and Fast Fusion of Synaptobrevin Vesicles Depends on the Lipid Compositions of the Vesicle and the Acceptor SNARE Complex-Containing Target Membrane. Biophysical Journal, 2010, 99, 2936-2946.	0.5	64
62	Structure, dynamics and function of the outer membrane protein A (OmpA) and influenza hemagglutinin fusion domain in detergent micelles by solution NMR. FEBS Letters, 2003, 555, 139-143.	2.8	59
63	Mass Spectrometry Defines the C-Terminal Dimerization Domain and Enables Modeling of the Structure of Full-Length OmpA. Structure, 2014, 22, 781-790.	3.3	58
64	Prefusion structure of syntaxin-1A suggests pathway for folding into neuronal <i>trans</i> -SNARE complex fusion intermediate. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19384-19389.	7.1	56
65	Molecular Mechanism of Cholesterol- and Polyphosphoinositide-Mediated Syntaxin Clustering. Biochemistry, 2011, 50, 9014-9022.	2.5	55
66	Structure of the Ebola virus envelope protein MPER/TM domain and its interaction with the fusion loop explains their fusion activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7987-E7996.	7.1	54
67	Locking the Kink in the Influenza Hemagglutinin Fusion Domain Structure*. Journal of Biological Chemistry, 2007, 282, 23946-23956.	3.4	52
68	High Cholesterol Obviates a Prolonged Hemifusion Intermediate in Fast SNARE-Mediated Membrane Fusion. Biophysical Journal, 2015, 109, 319-329.	0.5	50
69	Refinement of OprH-LPS Interactions by Molecular Simulations. Biophysical Journal, 2017, 112, 346-355.	0.5	50
70	ATP and large signaling metabolites flux through caspase-activated Pannexin 1 channels. ELife, 2021, 10, .	6.0	50
71	Synaptotagmin 1 Modulates Lipid Acyl Chain Order in Lipid Bilayers by Demixing Phosphatidylserine. Journal of Biological Chemistry, 2011, 286, 25291-25300.	3.4	49
72	Reconstitution of calcium-mediated exocytosis of dense-core vesicles. Science Advances, 2017, 3, e1603208.	10.3	45

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73	Ebolavirus Entry Requires a Compact Hydrophobic Fist at the Tip of the Fusion Loop. Journal of Virology, 2014, 88, 6636-6649.	3.4	44
74	Ebola virus glycoprotein interacts with cholesterol to enhance membrane fusion and cell entry. Nature Structural and Molecular Biology, 2021, 28, 181-189.	8.2	43
75	Single SNARE-Mediated Vesicle Fusion Observed InÂVitro by Polarized TIRFM. Biophysical Journal, 2010, 99, 4047-4055.	0.5	42
76	HIV-cell membrane fusion intermediates are restricted by Serincs as revealed by cryo-electron and TIRF microscopy. Journal of Biological Chemistry, 2020, 295, 15183-15195.	3.4	42
77	Secondary structure of a mitochondrial signal peptide in lipid bilayer membranes. FEBS Letters, 1990, 272, 29-33.	2.8	41
78	Regulation of Rac translocation and activation by membrane domains and their boundaries. Journal of Cell Science, 2014, 127, 2565-76.	2.0	40
79	Rapid Fusion of Synaptic Vesicles with Reconstituted Target SNARE Membranes. Biophysical Journal, 2013, 104, 1950-1958.	0.5	39
80	pHâ€Induced conformational changes of membraneâ€bound influenza hemagglutinin and its effect on target lipid bilayers. Protein Science, 1998, 7, 2359-2373.	7.6	38
81	In vitro fusion of single synaptic and dense core vesicles reproduces key physiological properties. Nature Communications, 2019, 10, 3904.	12.8	37
82	Fluorescence Microscopy to Study Domains in Supported Lipid Bilayers. Methods in Molecular Biology, 2007, 400, 481-488.	0.9	35
83	Fast-time scale dynamics of outer membrane protein A by extended model-free analysis of NMR relaxation data. Biochimica Et Biophysica Acta - Biomembranes, 2010, 1798, 68-76.	2.6	34
84	Combined NMR and EPR spectroscopy to determine structures of viral fusion domains in membranes. Biochimica Et Biophysica Acta - Biomembranes, 2007, 1768, 3052-3060.	2.6	33
85	A molecular mechanism for calcium-mediated synaptotagmin-triggered exocytosis. Nature Structural and Molecular Biology, 2018, 25, 911-917.	8.2	32
86	Quiet Outer Membrane Protein G (OmpG) Nanopore for Biosensing. ACS Sensors, 2019, 4, 1230-1235.	7.8	32
87	NMR-Based Conformational Ensembles Explain pH-Gated Opening and Closing of OmpG Channel. Journal of the American Chemical Society, 2013, 135, 15101-15113.	13.7	31
88	Optimizing nanodiscs and bicelles for solution NMR studies of two Î²-barrel membrane proteins. Journal of Biomolecular NMR, 2015, 61, 261-274.	2.8	31
89	Complexin Binding to Membranes and Acceptor t-SNAREs Explains Its Clamping Effect on Fusion. Biophysical Journal, 2017, 113, 1235-1250.	0.5	31
90	Asymmetric Phosphatidylethanolamine Distribution Controls Fusion Pore Lifetime and Probability. Biophysical Journal, 2017, 113, 1912-1915.	0.5	31

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91	Control of the Conductance of Engineered Protein Nanopores through Concerted Loop Motions. Angewandte Chemie - International Edition, 2014, 53, 5897-5902.	13.8	28
92	Structural studies on membraneâ€embedded influenza hemagglutinin and its fragments. Protein Science, 1997, 6, 1993-2006.	7.6	27
93	Membrane Depth-Dependent Energetic Contribution of the Tryptophan Side Chain to the Stability of Integral Membrane Proteins. Biochemistry, 2013, 52, 4413-4421.	2.5	27
94	Supported Lipid Bilayers as Models for Studying Membrane Domains. Current Topics in Membranes, 2015, 75, 1-23.	0.9	27
95	OprG Harnesses the Dynamics of its Extracellular Loops to Transport Small Amino Acids across the Outer Membrane of Pseudomonas aeruginosa. Structure, 2015, 23, 2234-2245.	3.3	26
96	Molecular Interactions of Lipopolysaccharide with an Outer Membrane Protein from <i>Pseudomonas aeruginosa</i> Probed by Solution NMR. Biochemistry, 2016, 55, 5061-5072.	2.5	26
97	Distinct insulin granule subpopulations implicated in the secretory pathology of diabetes types 1 and 2. ELife, 2020, 9, .	6.0	26
98	The Juxtamembrane Linker of Full-length Synaptotagmin 1 Controls Oligomerization and Calcium-dependent Membrane Binding. Journal of Biological Chemistry, 2014, 289, 22161-22171.	3.4	25
99	FTIR and Fluorescence Studies of Interactions of Synaptic Fusion Proteins in Polymer-Supported Bilayersâ€. Langmuir, 2003, 19, 1838-1846.	3.5	24
100	The SNARE Motif of Synaptobrevin Exhibits an Aqueousâ€"Interfacial Partitioning That Is Modulated by Membrane Curvature. Biochemistry, 2014, 53, 1485-1494.	2.5	24
101	Shallow Boomerang-shaped Influenza Hemagglutinin G13A Mutant Structure Promotes Leaky Membrane Fusion*. Journal of Biological Chemistry, 2010, 285, 37467-37475.	3.4	23
102	Planar Supported Membranes with Mobile SNARE Proteins and Quantitative Fluorescence Microscopy Assays to Study Synaptic Vesicle Fusion. Frontiers in Molecular Neuroscience, 2017, 10, 72.	2.9	22
103	Reversible pH-dependent Conformational Change of Reconstituted Influenza Hemagglutinin. Journal of Molecular Biology, 1996, 260, 312-316.	4.2	21
104	Distinct reaction mechanisms for hyaluronan biosynthesis in different kingdoms of life. Glycobiology, 2018, 28, 108-121.	2.5	21
105	Conserved arginine residues in synaptotagmin 1 regulate fusion pore expansion through membrane contact. Nature Communications, 2021, 12, 761.	12.8	21
106	Synaptotagminâ€7 enhances calciumâ€sensing of chromaffin cell granules and slows discharge of granule cargos. Journal of Neurochemistry, 2020, 154, 598-617.	3.9	20
107	Assembly and Comparison of Plasma Membrane SNARE Acceptor Complexes. Biophysical Journal, 2016, 110, 2147-2150.	0.5	19
108	Reconstituting SNARE-mediated membrane fusion at the single liposome level. Methods in Cell Biology, 2015, 128, 339-363.	1.1	16

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109	Membrane interactions of a self-assembling model peptide that mimics the self-association, structure and toxicity of AÎ²(1â€“40). Biochimica Et Biophysica Acta - Biomembranes, 2009, 1788, 1714-1721.	2.6	15
110	Supported membranes in structural biology. Journal of Structural Biology, 2009, 168, 1-2.	2.8	15
111	Solution NMR of SNAREs, complexin and Î±-synuclein in association with membrane-mimetics. Progress in Nuclear Magnetic Resonance Spectroscopy, 2018, 105, 41-53.	7.5	15
112	Partitioning of Synaptotagmin I C2 Domains between Liquid-Ordered and Liquid-Disordered Inner Leaflet Lipid Phases. Biochemistry, 2011, 50, 2478-2485.	2.5	14
113	Capturing Glimpses of an Elusive HIV Gp41 Prehairpin Fusion Intermediate. Structure, 2014, 22, 1225-1226.	3.3	14
114	Role of Sequence and Structure of the Hendra Fusion Protein Fusion Peptide in Membrane Fusion. Journal of Biological Chemistry, 2012, 287, 30035-30048.	3.4	12
115	Site-specific fluorescent labeling to visualize membrane translocation of a myristoyl switch protein. Scientific Reports, 2016, 6, 32866.	3.3	12
116	The Roles of Histidines and Charged Residues as Potential Triggers of a Conformational Change in the Fusion Loop of Ebola Virus Glycoprotein. PLoS ONE, 2016, 11, e0152527.	2.5	12
117	Interplay of Proteins and Lipids in Virus Entry by Membrane Fusion. , 2006, , 279-303.		8
118	Solution NMR Provides New Insight into Lipidâ€“Protein Interaction. Biochemistry, 2017, 56, 4291-4292.	2.5	5
119	Quaternary structure of the small amino acid transporter OprG from Pseudomonas aeruginosa. Journal of Biological Chemistry, 2018, 293, 17267-17277.	3.4	4
120	Folding and Stability of Monomeric Î²-Barrel Membrane Proteins. , 2006, , 27-56.		3
121	A Census of Ordered Lipids and Detergents in X-ray Crystal Structures of Integral Membrane Proteins. , 2006, , 95-117.		3
122	Structure and Interactions of C2 Domains at Membrane Surfaces. , 2006, , 403-422.		2
123	Mechanism of Membrane Permeation and Pore Formation by Antimicrobial Peptides. , 2006, , 187-217.		2
124	Cell Fusion in Development and Disease. , 2006, , 219-244.		2
125	Membrane Recognition and Pore Formation by Bacterial Pore-forming Toxins. , 2006, , 163-186.		2
126	Special Issue on Liposomes, Exosomes, andÂVirosomes. Biophysical Journal, 2017, 113, E1.	0.5	2

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127	Protein and Lipid Partitioning in Locally Heterogeneous Model Membranes. , 2006, , 337-365.		1
128	Protein-Lipid Interactions in the Formation of Raft Microdomains in Biological Membranes. , 2006, , 305-336.		1
129	Lipid Bilayers, Translocons and the Shaping of Polypeptide Structure. , 2006, , 1-25.		1
130	A Paradigm of Membrane Protein Folding: Principles, Kinetics and Stability of Bacteriorhodopsin Folding. , 2006, , 57-80.		1
131	Lipid Interactions of Î±-Helical Protein Toxins. , 2006, , 139-162.		1
132	Lateral Membrane Diffusion Corralled. Biophysical Journal, 2013, 104, 1399-1400.	0.5	1
133	Endosomes supporting fusion mediated by vesicular stomatitis virus glycoprotein have distinctive motion and acidification. Traffic, 2022, , .	2.7	1
134	Molecular Mechanisms of Intracellular Membrane Fusion. , 2006, , 245-277.		0
135	In vitro and Cellular Membrane-binding Mechanisms of Membrane-targeting Domains. , 2006, , 367-401.		0
136	Structural Mechanisms of Allosteric Regulation by Membrane-binding Domains. , 2006, , 423-436.		0
137	Post-integration Misassembly of Membrane Proteins and Disease. , 2006, , 81-94.		0
138	Lipid and Detergent Interactions with Membrane Proteins Derived from Solution Nuclear Magnetic Resonance. , 2006, , 119-137.		0
139	15. Application and characterization of asymmetric-supported membranes. , 2019, , 465-476.		0