Frank Bernhard

List of Publications by Year
in descending order

80 papers	3,638 citations	101384 36 h-index	138251 58 g-index
86 all docs	86 docs citations	86 times ranked	2616 citing authors

#	Article	IF	Citations
1	Preparative scale expression of membrane proteins in Escherichia coli-based continuous exchange cell-free systems. Nature Protocols, 2007, 2, 2945-2957.	5.5	240
2	High level cell-free expression and specific labeling of integral membrane proteins. FEBS Journal, 2004, 271, 568-580.	0.2	230
3	Evaluation of detergents for the soluble expression of Î±-helical and Î²-barrel-type integral membrane proteins by a preparative scale individual cell-free expression system. FEBS Journal, 2005, 272, 6024-6038.	2.2	186
4	Solution NMR Structure of Proteorhodopsin. Angewandte Chemie - International Edition, 2011, 50, 11942-11946.	7.2	162
5	Cell-free expression as an emerging technique for the large scale production of integral membrane protein. FEBS Journal, 2006, 273, 4141-4153.	2.2	119
6	Cell-free production of G protein-coupled receptors for functional and structural studies. Journal of Structural Biology, 2007, 158, 482-493.	1.3	111
7	Production of membrane proteins using cellâ€free expression systems. Proteomics, 2008, 8, 3933-3946.	1.3	95
8	Advances in cell-free protein synthesis for the functional and structural analysis of membrane proteins. New Biotechnology, 2011, 28, 262-271.	2.4	92
9	Cell-free expression and stable isotope labelling strategies for membrane proteins. Journal of Biomolecular NMR, 2010, 46, 33-43.	1.6	81
10	Cell-Free Expression and Assembly of ATP Synthase. Journal of Molecular Biology, 2011, 413, 593-603.	2.0	81
11	Membrane protein production in Escherichia coli cellâ€free lysates. FEBS Letters, 2015, 589, 1713-1722.	1.3	76
12	Analyzing native membrane protein assembly in nanodiscs by combined non-covalent mass spectrometry and synthetic biology. ELife, 2017, 6, .	2.8	75
13	Membrane Protein Expression in Cell-Free Systems. Methods in Molecular Biology, 2010, 601, 165-186.	0.4	73
14	Structural investigation of the C-terminal catalytic fragment of presenilin 1. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9644-9649.	3.3	72
15	Efficient Strategy for the Rapid Backbone Assignment of Membrane Proteins. Journal of the American Chemical Society, 2005, 127, 13504-13505.	6.6	71
16	Cell Free Expression and Functional Reconstitution of Eukaryotic Drug Transporters. Biochemistry, 2008, 47, 4552-4564.	1.2	68
17	Characterization of co-translationally formed nanodisc complexes with small multidrug transporters, proteorhodopsin and with the E. coli MraY translocase. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 3098-3106.	1.4	67
18	Modified lipid and protein dynamics in nanodiscs. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 1222-1229.	1.4	67

#	Article	IF	Citations
19	Cell-free expressionâ€"making a mark. Current Opinion in Structural Biology, 2013, 23, 374-380.	2.6	66
20	The Large Extracellular Loop of Organic Cation Transporter 1 Influences Substrate Affinity and Is Pivotal for Oligomerization. Journal of Biological Chemistry, 2011, 286, 37874-37886.	1.6	64
21	A systematic approach to increase the efficiency of membrane protein production in cell-free expression systems. Protein Expression and Purification, 2012, 82, 308-316.	0.6	62
22	Preparative scale cell-free expression systems: New tools for the large scale preparation of integral membrane proteins for functional and structural studies. Methods, 2007, 41, 355-369.	1.9	61
23	Functional properties of cell-free expressed human endothelin A and endothelin B receptors in artificial membrane environments. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 2182-2192.	1.4	58
24	Lipid Requirements for the Enzymatic Activity of MraY Translocases and in Vitro Reconstitution of the Lipid II Synthesis Pathway. Journal of Biological Chemistry, 2016, 291, 2535-2546.	1.6	57
25	Preparative Scale Cell-free Production and Quality Optimization of MraY Homologues in Different Expression Modes. Journal of Biological Chemistry, 2011, 286, 38844-38853.	1.6	54
26	Co-translational association of cell-free expressed membrane proteins with supplied lipid bilayers. Molecular Membrane Biology, 2013, 30, 75-89.	2.0	54
27	The E. coli S30 lysate proteome: A prototype for cell-free protein production. New Biotechnology, 2018, 40, 245-260.	2.4	54
28	Co-translational formation and pharmacological characterization of beta1-adrenergic receptor/nanodisc complexes with different lipid environments. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 1306-1316.	1.4	53
29	Cell-free protein synthesis in micro compartments: building a minimal cell from biobricks. New Biotechnology, 2017, 39, 199-205.	2.4	50
30	Single-Molecule Force Spectroscopy from Nanodiscs: An Assay to Quantify Folding, Stability, and Interactions of Native Membrane Proteins. ACS Nano, 2012, 6, 961-971.	7.3	47
31	Modulation of G-protein coupled receptor sample quality by modified cell-free expression protocols: A case study of the human endothelin A receptor. Journal of Structural Biology, 2010, 172, 94-106.	1.3	46
32	Strategies for the Cell-Free Expression of Membrane Proteins. Methods in Molecular Biology, 2010, 607, 187-212.	0.4	42
33	Preparative Scale Production of Functional Mouse Aquaporin 4 Using Different Cell-Free Expression Modes. PLoS ONE, 2010, 5, e12972.	1.1	41
34	Transmembrane segment enhanced labeling as a tool for the backbone assignment of Î±-helical membrane proteins. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8262-8267.	3.3	38
35	Functional analysis of cell-free-produced human endothelinâ€ƒB receptor reveals transmembrane segment 1 as an essential area for ET-1 binding and homodimer formation. FEBS Journal, 2007, 274, 3257-3269.	2.2	37
36	Systems for the Cell-Free Synthesis of Proteins. Methods in Molecular Biology, 2012, 800, 201-225.	0.4	37

#	Article	IF	Citations
37	Combination of cell-free expression and NMR spectroscopy as a new approach for structural investigation of membrane proteins. Magnetic Resonance in Chemistry, 2006, 44, S17-S23.	1.1	36
38	Combining in Vitro Folding with Cell Free Protein Synthesis for Membrane Protein Expression. Biochemistry, 2016, 55, 4212-4219.	1.2	36
39	Hydrophobic supplements in cellâ€free systems: Designing artificial environments for membrane proteins. Engineering in Life Sciences, 2014, 14, 365-379.	2.0	35
40	LILBID and nESI: Different Native Mass Spectrometry Techniques as Tools in Structural Biology. Journal of the American Society for Mass Spectrometry, 2019, 30, 181-191.	1.2	33
41	Cellâ€free expression profiling of E. coli inner membrane proteins. Proteomics, 2010, 10, 1762-1779.	1.3	32
42	Cell-free expression and in meso crystallisation of an integral membrane kinase for structure determination. Cellular and Molecular Life Sciences, 2014, 71, 4895-4910.	2.4	32
43	Screening for Lipid Requirements of Membrane Proteins by Combining Cell-Free Expression with Nanodiscs. Methods in Enzymology, 2015, 556, 351-369.	0.4	30
44	From Nanodiscs to Isotropic Bicelles: A Procedure for Solution Nuclear Magnetic Resonance Studies of Detergent-Sensitive Integral Membrane Proteins. Structure, 2016, 24, 1830-1841.	1.6	29
45	The Conformational Equilibrium of the Neuropeptide Y2 Receptor in Bilayer Membranes. Angewandte Chemie - International Edition, 2020, 59, 23854-23861.	7.2	29
46	Artificial Environments for the Co-Translational Stabilization of Cell-Free Expressed Proteins. PLoS ONE, 2013, 8, e56637.	1.1	29
47	Rat Organic Cation Transporter 1 Contains Three Binding Sites for Substrate 1-Methyl-4-phenylpyridinium per Monomer. Molecular Pharmacology, 2019, 95, 169-182.	1.0	28
48	Cell-Free Production of Integral Membrane Proteins on a Preparative Scale. , 2007, 375, 57-78.		27
49	Functional Expression of the PorAH Channel from Corynebacterium glutamicum in Cell-free Expression Systems. Journal of Biological Chemistry, 2011, 286, 32525-32532.	1.6	27
50	Protein labeling strategies for liquid-state NMR spectroscopy using cell-free synthesis. Progress in Nuclear Magnetic Resonance Spectroscopy, 2018, 105, 1-22.	3.9	26
51	Systematic optimization of cell-free synthesized human endothelin B receptor folding. Methods, 2018, 147, 73-83.	1.9	25
52	From Gene to Function: Cell-Free Electrophysiological and Optical Analysis of Ion Pumps in Nanodiscs. Biophysical Journal, 2017, 113, 1331-1341.	0.2	24
53	Biosynthesis of membrane dependent proteins in insect cell lysates: identification of limiting parameters for folding and processing. Biological Chemistry, 2015, 396, 1097-1107.	1.2	23
54	Insights into Cotranslational Membrane Protein Insertion by Combined LILBID-Mass Spectrometry and NMR Spectroscopy. Analytical Chemistry, 2017, 89, 12314-12318.	3.2	20

#	Article	IF	Citations
55	The synaptic vesicle protein <scp>SV</scp>31 assembles into a dimer and transports Zn²⁺. Journal of Neurochemistry, 2017, 140, 280-293.	2.1	19
56	Cell-Free Production of Membrane Proteins in Escherichia coli Lysates for Functional and Structural Studies. Methods in Molecular Biology, 2016, 1432, 1-21.	0.4	17
57	High-Level Cell-Free Production of Membrane Proteins with Nanodiscs. Methods in Molecular Biology, 2014, 1118, 109-130.	0.4	16
58	Cell-Free Expression of G-Protein-Coupled Receptors. Methods in Molecular Biology, 2015, 1261, 171-195.	0.4	16
59	Labeling of Membrane Proteins by Cell-Free Expression. Methods in Enzymology, 2015, 565, 367-388.	0.4	13
60	Co-translational Stabilization of Insoluble Proteins in Cell-Free Expression Systems. Methods in Molecular Biology, 2015, 1258, 125-143.	0.4	12
61	Reprint of â€œCell-free production of G protein-coupled receptors for functional and structural studiesâ€•[J. Struct. Biol. 158 (2007) 482â€“493]â˜†. Journal of Structural Biology, 2007, 159, 194-205.	1.3	11
62	Cell-free expression of G-protein coupled receptors: new pipelines for challenging targets. Biological Chemistry, 2014, 395, 1425-1434.	1.2	11
63	Precursor-Based Selective Methyl Labeling of Cell-Free Synthesized Proteins. ACS Chemical Biology, 2018, 13, 2170-2178.	1.6	11
64	Membrane Protein Production in E. coli Lysates in Presence of Preassembled Nanodiscs. Methods in Molecular Biology, 2017, 1586, 291-312.	0.4	11
65	Integration of Cell-Free Expression and Solid-State NMR to Investigate the Dynamic Properties of Different Sites of the Growth Hormone Secretagogue Receptor. Frontiers in Pharmacology, 2020, 11, 562113.	1.6	10
66	Lipid Conversion by Cell-Free Synthesized Phospholipid Methyltransferase Opi3 in Defined Nanodisc Membranes Supports an in Trans Mechanism. Biochemistry, 2018, 57, 5780-5784.	1.2	9
67	Structural and functional insights into the interaction and targeting hub TMD0 of the polypeptide transporter TAPL. Scientific Reports, 2018, 8, 15662.	1.6	7
68	Biochemical Characterization of Cell-free Synthesized Human Î²1 Adrenergic Receptor Cotranslationally Inserted into Nanodiscs. Journal of Molecular Biology, 2022, 434, 167687.	2.0	7
69	Cell-free expression of human glucosamine 6-phosphate N-acetyltransferase (HsGNA1) for inhibitor screening. Protein Expression and Purification, 2012, 86, 120-126.	0.6	6
70	Conformational stabilization of the membrane embedded targeting domain of the lysosomal peptide transporter TAPL for solution NMR. Journal of Biomolecular NMR, 2013, 57, 141-154.	1.6	6
71	Molecular Determinants for Ligand Selectivity of the Cell-Free Synthesized Human Endothelin B Receptor. Journal of Molecular Biology, 2018, 430, 5105-5119.	2.0	6
72	Membrane insertion mechanism and molecular assembly of the bacteriophage lysis toxin Î¦X174â€E. FEBS Journal, 2021, 288, 3300-3316.	2.2	6

#	Article	IF	Citations
73	Synthetic Biology-Based Solution NMR Studies on Membrane Proteins in Lipid Environments. Methods in Enzymology, 2019, 614, 143-185.	0.4	4
74	Membrane Protein Quality Control in Cell-Free Expression Systems: Tools, Strategies and Case Studies. , 2014, , 45-70.		4
75	Electrophysiology on Channel-Forming Proteins in Artificial Lipid Bilayers: Next-Generation Instrumentation for Multiple Recordings in Parallel. Methods in Molecular Biology, 2021, 2188, 67-92.	0.4	3
76	Screening Methods for Cell-Free Synthesized GPCR/Nanoparticle Samples. Methods in Molecular Biology, 2021, 2268, 97-117.	0.4	2
77	Applications of Cell-Free Synthesized Membrane Protein Precipitates. Methods in Molecular Biology, 2022, 2406, 245-266.	0.4	1
78	The soluble loop BC region guides, but not dictates, the assembly of the transmembrane cytochrome b6. PLoS ONE, 2017, 12, e0189532.	1.1	0
79	Das Konformationsgleichgewicht des Neuropeptidâ€Y2â€Rezeptors in Lipidmembranen. Angewandte Chemie, 2020, 132, 24062-24070.	1.6	0
80	Co-translational Insertion of Membrane Proteins into Preformed Nanodiscs. Journal of Visualized Experiments, 2020, , .	0.2	0