

# Daniel J. Muller

## List of Publications by Year in descending order

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312  
papers

28,791  
citations

3531  
90  
h-index

7348  
152  
g-index

328  
all docs

328  
docs citations

328  
times ranked

23043  
citing authors

#	ARTICLE	IF	CITATIONS
1	<scp>GSDMD</scp> membrane pore formation constitutes the mechanism of pyroptotic cell death. EMBO Journal, 2016, 35, 1766-1778.	7.8	842
2	Imaging modes of atomic force microscopy for application in molecular and cell biology. Nature Nanotechnology, 2017, 12, 295-307.	31.5	699
3	Tau protein liquidâ€“liquid phase separation can initiate tau aggregation. EMBO Journal, 2018, 37, .	7.8	696
4	Tensile forces govern germ-layer organization in zebrafish. Nature Cell Biology, 2008, 10, 429-436.	10.3	692
5	Atomic force microscopy as a multifunctional molecular toolbox in nanobiotechnology. Nature Nanotechnology, 2008, 3, 261-269.	31.5	678
6	Unfolding Pathways of Individual Bacteriorhodopsins. Science, 2000, 288, 143-146.	12.6	677
7	Hydrostatic pressure and the actomyosin cortex drive mitotic cell rounding. Nature, 2011, 469, 226-230.	27.8	576
8	Observing single biomolecules at work with the atomic force microscope. , 2000, 7, 715-718.		506
9	Atomic force microscopy-based mechanobiology. Nature Reviews Physics, 2019, 1, 41-57.	26.6	500
10	Proton-powered turbine of a plant motor. Nature, 2000, 405, 418-419.	27.8	478
11	Single-cell force spectroscopy. Journal of Cell Science, 2008, 121, 1785-1791.	2.0	443
12	Force probing surfaces of living cells to molecular resolution. Nature Chemical Biology, 2009, 5, 383-390.	8.0	430
13	Multiparametric imaging of biological systems by force-distance curveâ€“based AFM. Nature Methods, 2013, 10, 847-854.	19.0	378
14	Imaging and manipulation of biological structures with the AFM. Micron, 2002, 33, 385-397.	2.2	364
15	Electrostatically Balanced Subnanometer Imaging of Biological Specimens by Atomic Force Microscope. Biophysical Journal, 1999, 76, 1101-1111.	0.5	349
16	Atomic force microscopy: a nanoscopic window on the cell surface. Trends in Cell Biology, 2011, 21, 461-469.	7.9	329
17	Imaging purple membranes in aqueous solutions at sub-nanometer resolution by atomic force microscopy. Biophysical Journal, 1995, 68, 1681-1686.	0.5	326
18	The nucleus acts as a ruler tailoring cell responses to spatial constraints. Science, 2020, 370, .	12.6	299

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19	Adsorption of Biological Molecules to a Solid Support for Scanning Probe Microscopy. Journal of Structural Biology, 1997, 119, 172-188.	2.8	293
20	Neuronal uptake and propagation of a rare phosphorylated high-molecular-weight tau derived from Alzheimer's disease brain. Nature Communications, 2015, 6, 8490.	12.8	283
21	Wnt11 Functions in Gastrulation by Controlling Cell Cohesion through Rab5c and E-Cadherin. Developmental Cell, 2005, 9, 555-564.	7.0	273
22	Tapping-Mode Atomic Force Microscopy Produces Faithful High-Resolution Images of Protein Surfaces. Biophysical Journal, 1999, 77, 1150-1158.	0.5	256
23	Structure of the rhodopsin dimer: a working model for G-protein-coupled receptors. Current Opinion in Structural Biology, 2006, 16, 252-259.	5.7	253
24	The height of biomolecules measured with the atomic force microscope depends on electrostatic interactions. Biophysical Journal, 1997, 73, 1633-1644.	0.5	251
25	Control of Directed Cell Migration In Vivo by Membrane-to-Cortex Attachment. PLoS Biology, 2010, 8, e1000544.	5.6	231
26	AFM: A Nanotool in Membrane Biology. Biochemistry, 2008, 47, 7986-7998.	2.5	227
27	A new technical approach to quantify cell-cell adhesion forces by AFM. Ultramicroscopy, 2006, 106, 637-644.	1.9	225
28	Conformational changes in surface structures of isolated connexin 26 gap junctions. EMBO Journal, 2002, 21, 3598-3607.	7.8	221
29	Voltage and pH-induced channel closure of porin OmpF visualized by atomic force microscopy 1 Edited by W. Baumeister. Journal of Molecular Biology, 1999, 285, 1347-1351.	4.2	220
30	Atomic force microscopy and spectroscopy of native membrane proteins. Nature Protocols, 2007, 2, 2191-2197.	12.0	214
31	Kindlin-2 cooperates with talin to activate integrins and induces cell spreading by directly binding paxillin. ELife, 2016, 5, e10130.	6.0	213
32	Assembly of collagen into microribbons: effects of pH and electrolytes. Journal of Structural Biology, 2004, 148, 268-278.	2.8	208
33	Force-induced conformational change of bacteriorhodopsin. Journal of Molecular Biology, 1995, 249, 239-243.	4.2	188
34	Revealing Early Steps of $\alpha 2 \beta 1$ Integrin-mediated Adhesion to Collagen Type I by Using Single-Cell Force Spectroscopy. Molecular Biology of the Cell, 2007, 18, 1634-1644.	2.1	188
35	Bacterial Na <sup>+</sup> ATP synthase has an undecameric rotor. EMBO Reports, 2001, 2, 229-233.	4.5	185
36	Controlled unzipping of a bacterial surface layer with atomic force microscopy. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 13170-13174.	7.1	180

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37	Straight GDP-Tubulin Protofilaments Form in the Presence of Taxol. <i>Current Biology</i> , 2007, 17, 1765-1770.	3.9	179
38	Mechanism of membrane pore formation by human gasdermin $\alpha$ . <i>EMBO Journal</i> , 2018, 37, .	7.8	178
39	High resolution AFM topographs of the <i>Escherichia coli</i> water channel aquaporin Z. <i>EMBO Journal</i> , 1999, 18, 4981-4987.	7.8	176
40	The c <sub>15</sub> ring of the <i>Spirulina platensis</i> F <sub>1</sub> ATP synthase: F <sub>1</sub> /F <sub>0</sub> symmetry mismatch is not obligatory. <i>EMBO Reports</i> , 2005, 6, 1040-1044.	4.5	173
41	Quantifying cellular adhesion to extracellular matrix components by single-cell force spectroscopy. <i>Nature Protocols</i> , 2010, 5, 1353-1361.	12.0	172
42	Nanomechanical mapping of first binding steps of a virus to animal cells. <i>Nature Nanotechnology</i> , 2017, 12, 177-183.	31.5	170
43	High resolution imaging of native biological sample surfaces using scanning probe microscopy. <i>Current Opinion in Structural Biology</i> , 1997, 7, 279-284.	5.7	163
44	Stability of Bacteriorhodopsin $\alpha$ -Helices and Loops Analyzed by Single-Molecule Force Spectroscopy. <i>Biophysical Journal</i> , 2002, 83, 3578-3588.	0.5	163
45	Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. <i>Journal of Cell Science</i> , 2005, 118, 4199-4206.	2.0	161
46	A practical guide to quantify cell adhesion using single-cell force spectroscopy. <i>Methods</i> , 2013, 60, 169-178.	3.8	161
47	From Images to Interactions: High-Resolution Phase Imaging in Tapping-Mode Atomic Force Microscopy. <i>Biophysical Journal</i> , 2001, 80, 3009-3018.	0.5	160
48	Observing structure, function and assembly of single proteins by AFM. <i>Progress in Biophysics and Molecular Biology</i> , 2002, 79, 1-43.	2.9	155
49	Five challenges to bringing single-molecule force spectroscopy into living cells. <i>Nature Methods</i> , 2011, 8, 123-127.	19.0	155
50	Quantification of surface tension and internal pressure generated by single mitotic cells. <i>Scientific Reports</i> , 2014, 4, 6213.	3.3	151
51	A glucose-starvation response regulates the diffusion of macromolecules. <i>ELife</i> , 2016, 5, .	6.0	151
52	Surface Tongue-and-groove Contours on Lens MIP Facilitate Cell-to-cell Adherence. <i>Journal of Molecular Biology</i> , 2000, 300, 779-789.	4.2	149
53	The fuzzy coat of pathological human Tau fibrils is a two-layered polyelectrolyte brush. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, E313-21.	7.1	148
54	Observing growth steps of collagen self-assembly by time-lapse high-resolution atomic force microscopy. <i>Journal of Structural Biology</i> , 2006, 154, 232-245.	2.8	145

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55	Atomic force microscopy-based characterization and design of biointerfaces. Nature Reviews Materials, 2017, 2, .	48.7	145
56	Conformational change of the hexagonally packed intermediate layer of Deinococcus radiodurans monitored by atomic force microscopy. Journal of Bacteriology, 1996, 178, 3025-3030.	2.2	143
57	Surface structures of native bacteriorhodopsin depend on the molecular packing arrangement in the membrane 1 Edited by W. Baumeister. Journal of Molecular Biology, 1999, 285, 1903-1909.	4.2	142
58	Cholesterol increases kinetic, energetic, and mechanical stability of the human $\beta_2$ -adrenergic receptor. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3463-72.	7.1	142
59	Oligomer Formation of Tau Protein Hyperphosphorylated in Cells. Journal of Biological Chemistry, 2014, 289, 34389-34407.	3.4	132
60	Atomic force microscopy: a powerful tool to observe biomolecules at work. Trends in Cell Biology, 1999, 9, 77-80.	7.9	131
61	Cdk1-dependent mitotic enrichment of cortical myosin II promotes cell rounding against confinement. Nature Cell Biology, 2015, 17, 148-159.	10.3	131
62	Analyzing focal adhesion structure by atomic force microscopy. Journal of Cell Science, 2005, 118, 5315-5323.	2.0	129
63	Deciphering Molecular Interactions of Native Membrane Proteins by Single-Molecule Force Spectroscopy. Annual Review of Biophysics and Biomolecular Structure, 2007, 36, 233-260.	18.3	124
64	Electrostatic Cell-Surface Repulsion Initiates Lumen Formation in Developing Blood Vessels. Current Biology, 2010, 20, 2003-2009.	3.9	124
65	Atomic force microscopy of native purple membrane. Biochimica Et Biophysica Acta - Bioenergetics, 2000, 1460, 27-38.	1.0	121
66	The effect of unlocking RGD-motifs in collagen I on pre-osteoblast adhesion and differentiation. Biomaterials, 2010, 31, 2827-2835.	11.4	121
67	Rheology of the Active Cell Cortex in Mitosis. Biophysical Journal, 2016, 111, 589-600.	0.5	119
68	Molecular-scale Topographic Cues Induce the Orientation and Directional Movement of Fibroblasts on Two-dimensional Collagen Surfaces. Journal of Molecular Biology, 2005, 349, 380-386.	4.2	118
69	High-resolution atomic force microscopy and spectroscopy of native membrane proteins. Reports on Progress in Physics, 2011, 74, 086601.	20.1	118
70	Mechanism of allosteric regulation of $\beta_2$ -adrenergic receptor by cholesterol. ELife, 2016, 5, .	6.0	115
71	Unfolding pathways of native bacteriorhodopsin depend on temperature. EMBO Journal, 2003, 22, 5220-5229.	7.8	111
72	Hydrodynamic effects in fast AFM single-molecule force measurements. European Biophysics Journal, 2005, 34, 91-96.	2.2	111

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73	Movement Directionality in Collective Migration of Germ Layer Progenitors. <i>Current Biology</i> , 2010, 20, 161-169.	3.9	111
74	Fibronectin-bound $\alpha 5 \beta 1$ integrins sense load and signal to reinforce adhesion in less than a second. <i>Nature Materials</i> , 2017, 16, 1262-1270.	27.5	109
75	Atomic Force Microscopy-Based Force Spectroscopy and Multiparametric Imaging of Biomolecular and Cellular Systems. <i>Chemical Reviews</i> , 2021, 121, 11701-11725.	47.7	109
76	Impact of holdase chaperones Skp and SurA on the folding of $\beta$ -barrel outer-membrane proteins. <i>Nature Structural and Molecular Biology</i> , 2015, 22, 795-802.	8.2	108
77	Mapping flexible protein domains at subnanometer resolution with the atomic force microscope. <i>FEBS Letters</i> , 1998, 430, 105-111.	2.8	107
78	The Oligomeric State of c Rings from Cyanobacterial F-ATP Synthases Varies from 13 to 15. <i>Journal of Bacteriology</i> , 2007, 189, 5895-5902.	2.2	106
79	Imaging G protein-coupled receptors while quantifying their ligand-binding free-energy landscape. <i>Nature Methods</i> , 2015, 12, 845-851.	19.0	106
80	Cellular Remodelling of Individual Collagen Fibrils Visualized by Time-lapse AFM. <i>Journal of Molecular Biology</i> , 2007, 372, 594-607.	4.2	105
81	A Size Barrier Limits Protein Diffusion at the Cell Surface to Generate Lipid-Rich Myelin-Membrane Sheets. <i>Developmental Cell</i> , 2011, 21, 445-456.	7.0	105
82	Scanning probe microscopy. <i>Nature Reviews Methods Primers</i> , 2021, 1, .	21.2	103
83	Imaging streptavidin 2D crystals on biotinylated lipid monolayers at high resolution with the atomic force microscope. <i>Journal of Microscopy</i> , 1999, 193, 28-35.	1.8	102
84	Single-molecule studies of membrane proteins. <i>Current Opinion in Structural Biology</i> , 2006, 16, 489-495.	5.7	102
85	Mechanical Stimulation of Piezo1 Receptors Depends on Extracellular Matrix Proteins and Directionality of Force. <i>Nano Letters</i> , 2017, 17, 2064-2072.	9.1	100
86	Inertial picobalance reveals fast mass fluctuations in mammalian cells. <i>Nature</i> , 2017, 550, 500-505.	27.8	100
87	Controlled Unfolding and Refolding of a Single Sodium-proton Antiporter using Atomic Force Microscopy. <i>Journal of Molecular Biology</i> , 2004, 340, 1143-1152.	4.2	99
88	Surface and Subsurface Morphology of Bovine Humeral Articular Cartilage as Assessed by Atomic Force and Transmission Electron Microscopy. <i>Journal of Structural Biology</i> , 1996, 117, 45-54.	2.8	98
89	Folding and Assembly of Proteorhodopsin. <i>Journal of Molecular Biology</i> , 2008, 376, 35-41.	4.2	96
90	Human Tau Isoforms Assemble into Ribbon-like Fibrils That Display Polymorphic Structure and Stability. <i>Journal of Biological Chemistry</i> , 2010, 285, 27302-27313.	3.4	96

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91	Multiparametric high-resolution imaging of native proteins by force-distance curve-based AFM. <i>Nature Protocols</i> , 2014, 9, 1113-1130.	12.0	95
92	Atomic force microscopy: A forceful way with single molecules. <i>Current Biology</i> , 1999, 9, R133-R136.	3.9	94
93	Surface Topographies at Subnanometer-resolution Reveal Asymmetry and Sidedness of Aquaporin-1. <i>Journal of Molecular Biology</i> , 1996, 264, 907-918.	4.2	93
94	Characterizing Molecular Interactions in Different Bacteriorhodopsin Assemblies by Single-molecule Force Spectroscopy. <i>Journal of Molecular Biology</i> , 2006, 355, 640-650.	4.2	93
95	Bacteriorhodopsin Folds into the Membrane against an External Force. <i>Journal of Molecular Biology</i> , 2006, 357, 644-654.	4.2	93
96	Vertebrate Membrane Proteins: Structure, Function, and Insights from Biophysical Approaches. <i>Pharmacological Reviews</i> , 2008, 60, 43-78.	16.0	92
97	$\beta$ -V-class integrins exert dual roles on $\beta$ -5 $\beta$ 1 integrins to strengthen adhesion to fibronectin. <i>Nature Communications</i> , 2017, 8, 14348.	12.8	92
98	Imaging the Electrostatic Potential of Transmembrane Channels: Atomic Probe Microscopy of OmpF Porin. <i>Biophysical Journal</i> , 2002, 82, 1667-1676.	0.5	90
99	Imaging and Quantifying Chemical and Physical Properties of Native Proteins at Molecular Resolution by Force-Volume AFM. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 12103-12108.	13.8	90
100	The bacteriophage phi 29 head-tail connector imaged at high resolution with the atomic force microscope in buffer solution. <i>EMBO Journal</i> , 1997, 16, 2547-2553.	7.8	89
101	Engineering rotor ring stoichiometries in the ATP synthase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, E1599-608.	7.1	89
102	Fourteen Protomers Compose the Oligomer III of the Proton-rotor in Spinach Chloroplast ATP Synthase. <i>Journal of Molecular Biology</i> , 2003, 333, 337-344.	4.2	88
103	Ligand-Specific Interactions Modulate Kinetic, Energetic, and Mechanical Properties of the Human $\beta$ 2 Adrenergic Receptor. <i>Structure</i> , 2012, 20, 1391-1402.	3.3	87
104	Galectin-3 Regulates Integrin $\beta$ 2 $\beta$ 1-mediated Adhesion to Collagen-I and -IV. <i>Journal of Biological Chemistry</i> , 2008, 283, 32264-32272.	3.4	86
105	Locating ligand binding and activation of a single antiporter. <i>EMBO Reports</i> , 2005, 6, 668-674.	4.5	85
106	Immuno-atomic force microscopy of purple membrane. <i>Biophysical Journal</i> , 1996, 70, 1796-1802.	0.5	82
107	Probing the Energy Landscape of the Membrane Protein Bacteriorhodopsin. <i>Structure</i> , 2004, 12, 871-879.	3.3	80
108	Structural Changes in Native Membrane Proteins Monitored at Subnanometer Resolution with the Atomic Force Microscope: A Review. <i>Journal of Structural Biology</i> , 1997, 119, 149-157.	2.8	79

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109	The c13 Ring from a Thermoalkaliphilic ATP Synthase Reveals an Extended Diameter Due to a Special Structural Region. <i>Journal of Molecular Biology</i> , 2009, 388, 611-618.	4.2	79
110	Mitotic cells contract actomyosin cortex and generate pressure to round against or escape epithelial confinement. <i>Nature Communications</i> , 2015, 6, 8872.	12.8	79
111	Observing Membrane Protein Diffusion at Subnanometer Resolution. <i>Journal of Molecular Biology</i> , 2003, 327, 925-930.	4.2	78
112	Stages and Conformations of the Tau Repeat Domain during Aggregation and Its Effect on Neuronal Toxicity. <i>Journal of Biological Chemistry</i> , 2014, 289, 20318-20332.	3.4	77
113	ATP synthase: constrained stoichiometry of the transmembrane rotor. <i>FEBS Letters</i> , 2001, 504, 219-222.	2.8	76
114	Contributions of Galectin-3 and -9 to Epithelial Cell Adhesion Analyzed by Single Cell Force Spectroscopy. <i>Journal of Biological Chemistry</i> , 2007, 282, 29375-29383.	3.4	76
115	Single-Cell Force Spectroscopy, an Emerging Tool to Quantify Cell Adhesion to Biomaterials. <i>Tissue Engineering - Part B: Reviews</i> , 2014, 20, 40-55.	4.8	76
116	Mechanical control of mitotic progression in single animal cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 11258-11263.	7.1	76
117	The central plug in the reconstituted undecameric c cylinder of a bacterial ATP synthase consists of phospholipids. <i>FEBS Letters</i> , 2001, 505, 353-356.	2.8	75
118	The effect of raft lipid depletion on microvilli formation in MDCK cells, visualized by atomic force microscopy. <i>FEBS Letters</i> , 2004, 565, 53-58.	2.8	75
119	Membrane perforation by the pore-forming toxin pneumolysin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13352-13357.	7.1	75
120	Directly Observing the Lipid-Dependent Self-Assembly and Pore-Forming Mechanism of the Cytolytic Toxin Listeriolysin O. <i>Nano Letters</i> , 2015, 15, 6965-6973.	9.1	74
121	Conformational Adaptability of Red $\beta$ 2 during DNA Annealing and Implications for Its Structural Relationship with Rad52. <i>Journal of Molecular Biology</i> , 2009, 391, 586-598.	4.2	73
122	SAS-6 engineering reveals interdependence between cartwheel and microtubules in determining centriole Architecture. <i>Nature Cell Biology</i> , 2016, 18, 393-403.	10.3	73
123	Vaccinia virus hijacks EGFR signalling to enhance virus spread through rapid and directed infected cell motility. <i>Nature Microbiology</i> , 2019, 4, 216-225.	13.3	73
124	Studying Integrin-Mediated Cell Adhesion at the Single-Molecule Level Using AFM Force Spectroscopy. <i>Science's STKE: Signal Transduction Knowledge Environment</i> , 2007, 2007, pl5.	3.9	72
125	New frontiers in atomic force microscopy: analyzing interactions from single-molecules to cells. <i>Current Opinion in Biotechnology</i> , 2009, 20, 4-13.	6.6	72
126	Detecting Molecular Interactions that Stabilize Native Bovine Rhodopsin. <i>Journal of Molecular Biology</i> , 2006, 358, 255-269.	4.2	71



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127	Aminosulfonate Modulated pH-induced Conformational Changes in Connexin26 Hemichannels. Journal of Biological Chemistry, 2007, 282, 8895-8904.	3.4	71
128	Surface analysis of the photosystem I complex by electron and atomic force microscopy. Journal of Molecular Biology, 1998, 283, 83-94.	4.2	70
129	Sampling the conformational space of membrane protein surfaces with the AFM. European Biophysics Journal, 2002, 31, 172-178.	2.2	70
130	A Bond for a Lifetime: Employing Membrane Nanotubes from Living Cells to Determine Receptor-Ligand Kinetics. Angewandte Chemie - International Edition, 2008, 47, 9775-9777.	13.8	70
131	YidC assists the stepwise and stochastic folding of membrane proteins. Nature Chemical Biology, 2016, 12, 911-917.	8.0	70
132	Atomic force bio-analytics. Current Opinion in Chemical Biology, 2003, 7, 641-647.	6.1	69
133	Molecular Force Modulation Spectroscopy Revealing the Dynamic Response of Single Bacteriorhodopsins. Biophysical Journal, 2005, 88, 1423-1431.	0.5	69
134	Multiparametric Atomic Force Microscopy Imaging of Biomolecular and Cellular Systems. Accounts of Chemical Research, 2017, 50, 924-931.	15.6	68
135	Single Proteins Observed by Atomic Force Microscopy. Single Molecules, 2001, 2, 59-67.	0.9	65
136	Creating Ultrathin Nanoscopic Collagen Matrices For Biological And Biotechnological Applications. Small, 2007, 3, 956-963.	10.0	65
137	Force nanoscopy of living cells. Current Biology, 2011, 21, R212-R216.	3.9	65
138	Wedged AFM-cantilevers for parallel plate cell mechanics. Methods, 2013, 60, 186-194.	3.8	65
139	The fibronectin synergy site re-enforces cell adhesion and mediates a crosstalk between integrin classes. ELife, 2017, 6, .	6.0	65
140	Identification and Structure of a Putative Ca <sup>2+</sup> -binding Domain at the C Terminus of AQP1. Journal of Molecular Biology, 2002, 318, 1381-1394.	4.2	64
141	Determining molecular forces that stabilize human aquaporin-1. Journal of Structural Biology, 2003, 142, 369-378.	2.8	64
142	Identifying and quantifying two ligand-binding sites while imaging native human membrane receptors by AFM. Nature Communications, 2015, 6, 8857.	12.8	64
143	Protein-enriched outer membrane vesicles as a native platform for outer membrane protein studies. Communications Biology, 2018, 1, 23.	4.4	63
144	Stabilizing Effect of Zn <sup>2+</sup> in Native Bovine Rhodopsin. Journal of Biological Chemistry, 2007, 282, 11377-11385.	3.4	61

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145	Deciphering Teneurin Domains That Facilitate Cellular Recognition, Cell–Cell Adhesion, and Neurite Outgrowth Using Atomic Force Microscopy-Based Single-Cell Force Spectroscopy. <i>Nano Letters</i> , 2013, 13, 2937-2946.	9.1	61
146	Force spectroscopy of single cells using atomic force microscopy. <i>Nature Reviews Methods Primers</i> , 2021, 1, .	21.2	61
147	Charting the Surfaces of the Purple Membrane. <i>Journal of Structural Biology</i> , 1999, 128, 243-249.	2.8	60
148	Action of the Hsp70 chaperone system observed with single proteins. <i>Nature Communications</i> , 2015, 6, 6307.	12.8	58
149	Combining confocal and atomic force microscopy to quantify single-virus binding to mammalian cell surfaces. <i>Nature Protocols</i> , 2017, 12, 2275-2292.	12.0	58
150	Neurons differentiate magnitude and location of mechanical stimuli. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 848-856.	7.1	58
151	Biomolecular imaging using atomic force microscopy. <i>Trends in Biotechnology</i> , 2002, 20, S45-S49.	9.3	55
152	Probing Origins of Molecular Interactions Stabilizing the Membrane Proteins Halorhodopsin and Bacteriorhodopsin. <i>Structure</i> , 2005, 13, 235-242.	3.3	54
153	Nanomechanical Properties of Proteins and Membranes Depend on Loading Rate and Electrostatic Interactions. <i>ACS Nano</i> , 2013, 7, 2642-2650.	14.6	54
154	Point Mutations in Membrane Proteins Reshape Energy Landscape and Populate Different Unfolding Pathways. <i>Journal of Molecular Biology</i> , 2008, 376, 1076-1090.	4.2	52
155	Genome-scale single-cell mechanical phenotyping reveals disease-related genes involved in mitotic rounding. <i>Nature Communications</i> , 2017, 8, 1266.	12.8	52
156	Structural evidence for a constant c <sub>11</sub> ring stoichiometry in the sodium F <sub>1</sub> F <sub>0</sub> ATP synthase. <i>FEBS Journal</i> , 2005, 272, 5474-5483.	4.7	51
157	Transmembrane Helices Have Rough Energy Surfaces. <i>Journal of the American Chemical Society</i> , 2007, 129, 246-247.	13.7	50
158	Preparation techniques for the observation of native biological systems with the atomic force microscope. <i>Biosensors and Bioelectronics</i> , 1997, 12, 867-877.	10.1	49
159	Products of the Parkinson's disease-related glyoxalase DJ-1, D-lactate and glycolate, support mitochondrial membrane potential and neuronal survival. <i>Biology Open</i> , 2014, 3, 777-784.	1.2	49
160	Observing Folding Pathways and Kinetics of a Single Sodium-proton Antiporter from <i>Escherichia coli</i> . <i>Journal of Molecular Biology</i> , 2006, 355, 2-8.	4.2	48
161	Strategies to prepare and characterize native membrane proteins and protein membranes by AFM. <i>Current Opinion in Colloid and Interface Science</i> , 2008, 13, 338-350.	7.4	48
162	An intermediate step in the evolution of ATPases – a hybrid F <sub>1</sub> F <sub>0</sub> V <sub>0</sub> rotor in a bacterial Na <sup>+</sup> -driven F <sub>1</sub> F <sub>0</sub> ATP synthase. <i>FEBS Journal</i> , 2008, 275, 1999-2007.	4.7	48

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163	pH-Induced Conformational Change of the $\beta^2$ -Barrel-Forming Protein OmpG Reconstituted into Native E. coli Lipids. <i>Journal of Molecular Biology</i> , 2010, 396, 610-616.	4.2	48
164	Localizing Chemical Groups while Imaging Single Native Proteins by High-Resolution Atomic Force Microscopy. <i>Nano Letters</i> , 2014, 14, 2957-2964.	9.1	48
165	Gating of the MlotiK1 potassium channel involves large rearrangements of the cyclic nucleotide-binding domains. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 20802-20807.	7.1	47
166	Single-Molecule Force Spectroscopy from Nanodiscs: An Assay to Quantify Folding, Stability, and Interactions of Native Membrane Proteins. <i>ACS Nano</i> , 2012, 6, 961-971.	14.6	47
167	Out but Not In: The Large Transmembrane $\beta^2$ -Barrel Protein FhuA Unfolds but Cannot Refold via $\beta^2$ -Hairpins. <i>Structure</i> , 2012, 20, 2185-2190.	3.3	47
168	Kinetic, Energetic, and Mechanical Differences between Dark-State Rhodopsin and Opsin. <i>Structure</i> , 2013, 21, 426-437.	3.3	47
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