Cheng Zhu

List of Publications by Year
in descending order

185 papers	13,520 citations	22099 59 h-index	25716 108 g-index
192 all docs	192 docs citations	192 times ranked	10368 citing authors

#	Article	IF	Citations
1	Direct observation of catch bonds involving cell-adhesion molecules. Nature, 2003, 423, 190-193.	13.7	880
2	Demonstration of catch bonds between an integrin and its ligand. Journal of Cell Biology, 2009, 185, 1275-1284.	2.3	600
3	Mechanical regulation of a molecular clutch defines force transmission and transduction in response to matrix rigidity. Nature Cell Biology, 2016, 18, 540-548.	4.6	582
4	Accumulation of Dynamic Catch Bonds between TCR and Agonist Peptide-MHC Triggers T Cell Signaling. Cell, 2014, 157, 357-368.	13.5	487
5	The kinetics of two-dimensional TCR and pMHC interactions determine T-cell responsiveness. Nature, 2010, 464, 932-936.	13.7	451
6	Measuring Two-Dimensional Receptor-Ligand Binding Kinetics by Micropipette. Biophysical Journal, 1998, 75, 1553-1572.	0.2	397
7	Cell Mechanics: Mechanical Response, Cell Adhesion, and Molecular Deformation. Annual Review of Biomedical Engineering, 2000, 2, 189-226.	5.7	365
8	Rolling Cell Adhesion. Annual Review of Cell and Developmental Biology, 2010, 26, 363-396.	4.0	318
9	Mechanical switching and coupling between two dissociation pathways in a P-selectin adhesion bond. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 11281-11286.	3.3	300
10	A nonsynonymous functional variant in integrin-Î±M (encoded by ITGAM) is associated with systemic lupus erythematosus. Nature Genetics, 2008, 40, 152-154.	9.4	277
11	DNA-based digital tension probes reveal integrin forces during early cell adhesion. Nature Communications, 2014, 5, 5167.	5.8	258
12	Platelet glycoprotein IbÎ± forms catch bonds with human WT vWF but not with type 2B von Willebrand disease vWF. Journal of Clinical Investigation, 2008, 118, 3195-207.	3.9	257
13	Notch-Jagged complex structure implicates a catch bond in tuning ligand sensitivity. Science, 2017, 355, 1320-1324.	6.0	232
14	T Cell Receptor Signaling Is Limited by Docking Geometry to Peptide-Major Histocompatibility Complex. Immunity, 2011, 35, 681-693.	6.6	229
15	Low Force Decelerates L-selectin Dissociation from P-selectin Glycoprotein Ligand-1 and Endoglycan. Journal of Biological Chemistry, 2004, 279, 2291-2298.	1.6	222
16	Catch bonds govern adhesion through L-selectin at threshold shear. Journal of Cell Biology, 2004, 166, 913-923.	2.3	202
17	Two-Stage Cooperative T Cell Receptor-Peptide Major Histocompatibility Complex-CD8 Trimolecular Interactions Amplify Antigen Discrimination. Immunity, 2011, 34, 13-23.	6.6	172
18	Receptor-mediated cell mechanosensing. Molecular Biology of the Cell, 2017, 28, 3134-3155.	0.9	168

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19	Kinetics and mechanics of cell adhesion. Journal of Biomechanics, 2000, 33, 23-33.	0.9	162
20	Forcing Switch from Short- to Intermediate- and Long-lived States of the Î±A Domain Generates LFA-1/ICAM-1 Catch Bonds. Journal of Biological Chemistry, 2010, 285, 35967-35978.	1.6	161
21	High prevalence of low affinity peptideâ€“MHC II tetramerâ€“negative effectors during polyclonal CD4+ T cell responses. Journal of Experimental Medicine, 2011, 208, 81-90.	4.2	150
22	Distinct molecular and cellular contributions to stabilizing selectin-mediated rolling under flow. Journal of Cell Biology, 2002, 158, 787-799.	2.3	141
23	Determining Force Dependence of Two-Dimensional Receptor-Ligand Binding Affinity by Centrifugation. Biophysical Journal, 1998, 74, 492-513.	0.2	139
24	Identification of Self Through Two-Dimensional Chemistry and Synapses. Annual Review of Cell and Developmental Biology, 2001, 17, 133-157.	4.0	139
25	Flow-enhanced adhesion regulated by a selectin interdomain hinge. Journal of Cell Biology, 2006, 174, 1107-1117.	2.3	136
26	Cyclic Mechanical Reinforcement of Integrinâ€“Ligand Interactions. Molecular Cell, 2013, 49, 1060-1068.	4.5	131
27	Observing force-regulated conformational changes and ligand dissociation from a single integrin on cells. Journal of Cell Biology, 2012, 199, 497-512.	2.3	130
28	Mechanosensing through immunoreceptors. Nature Immunology, 2019, 20, 1269-1278.	7.0	118
29	A Structure-Based Sliding-Rebinding Mechanism for Catch Bonds. Biophysical Journal, 2007, 92, 1471-1485.	0.2	113
30	Hotspot autoimmune T cell receptor binding underlies pathogen and insulin peptide cross-reactivity. Journal of Clinical Investigation, 2016, 126, 2191-2204.	3.9	113
31	Force History Dependence of Receptor-Ligand Dissociation. Biophysical Journal, 2005, 88, 1458-1466.	0.2	112
32	A TCR mechanotransduction signaling loop induces negative selection in the thymus. Nature Immunology, 2018, 19, 1379-1390.	7.0	112
33	Monitoring Receptor-Ligand Interactions between Surfaces by Thermal Fluctuations. Biophysical Journal, 2008, 94, 694-701.	0.2	110
34	Force-induced cleavage of single VWFA1A2A3 tridomains by ADAMTS-13. Blood, 2010, 115, 370-378.	0.6	100
35	Mechanisms for Flow-Enhanced Cell Adhesion. Annals of Biomedical Engineering, 2008, 36, 604-621.	1.3	99
36	Quantifying the Effects of Molecular Orientation and Length on Two-dimensional Receptor-Ligand Binding Kinetics. Journal of Biological Chemistry, 2004, 279, 44915-44923.	1.6	98

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37	Programmable Multivalent DNA-Origami Tension Probes for Reporting Cellular Traction Forces. Nano Letters, 2018, 18, 4803-4811.	4.5	97
38	Mechano-regulation of Peptide-MHC Class I Conformations Determines TCR Antigen Recognition. Molecular Cell, 2019, 73, 1015-1027.e7.	4.5	95
39	An integrin Î±IIbÎ²3 intermediate affinity state mediates biomechanical platelet aggregation. Nature Materials, 2019, 18, 760-769.	13.3	94
40	Mechanical regulation of Tâ€cell functions. Immunological Reviews, 2013, 256, 160-176.	2.8	93
41	Force-Regulated In Situ TCRâ€"Peptide-Bound MHC Class II Kinetics Determine Functions of CD4+ T Cells. Journal of Immunology, 2015, 195, 3557-3564.	0.4	92
42	The N-terminal Flanking Region of the A1 Domain Regulates the Force-dependent Binding of von Willebrand Factor to Platelet Glycoprotein IbÎ±. Journal of Biological Chemistry, 2013, 288, 32289-32301.	1.6	91
43	Kinetics of MHC-CD8 Interaction at the T Cell Membrane. Journal of Immunology, 2007, 179, 7653-7662.	0.4	90
44	Dynamic catch of a Thy-1â€"Î±5Î²1+syndecan-4 trimolecular complex. Nature Communications, 2014, 5, 4886.	5.8	85
45	Measuring Receptorâ€"Ligand Binding Kinetics on Cell Surfaces: From Adhesion Frequency to Thermal Fluctuation Methods. Cellular and Molecular Bioengineering, 2008, 1, 276-288.	1.0	79
46	Measuring Receptor/Ligand Interaction at the Single-Bond Level: Experimental and Interpretative Issues. Annals of Biomedical Engineering, 2002, 30, 305-314.	1.3	78
47	Ligand Binding and Phagocytosis by CD16 (Fc Î³ Receptor III) Isoforms. Journal of Biological Chemistry, 1995, 270, 25762-25770.	1.6	77
48	Measuring Diffusion and Binding Kinetics by Contact Area FRAP. Biophysical Journal, 2008, 95, 920-930.	0.2	76
49	Apolipoprotein A-IV binds Î±IIbÎ²3 integrin and inhibits thrombosis. Nature Communications, 2018, 9, 3608.	5.8	75
50	A modified Boyden chamber assay for tumor cell transendothelial migration in vitro. , 1999, 17, 423-429.		69
51	Measuring Molecular Elasticity by Atomic Force Microscope Cantilever Fluctuations. Biophysical Journal, 2006, 90, 681-692.	0.2	69
52	Dynamic control of Î²1 integrin adhesion by the plexinD1-sema3E axis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 379-384.	3.3	69
53	Quantifying the Impact of Membrane Microtopology on Effective Two-dimensional Affinity. Journal of Biological Chemistry, 2001, 276, 13283-13288.	1.6	68
54	Transport Governs Flow-Enhanced Cell Tethering through L-Selectin at Threshold Shear. Biophysical Journal, 2007, 92, 330-342.	0.2	68

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55	Molecular Dynamics Simulations of Forced Unbending of Integrin Î±VÎ²3. PLoS Computational Biology, 2011, 7, e1001086.	1.5	68
56	Two-dimensional Kinetics Regulation of Î±LÎ²2-ICAM-1 Interaction by Conformational Changes of the Î±L-Inserted Domain. Journal of Biological Chemistry, 2005, 280, 42207-42218.	1.6	67
57	Diffusion of Microspheres in Shear Flow Near a Wall: Use to Measure Binding Rates between Attached Molecules. Biophysical Journal, 2001, 81, 25-42.	0.2	66
58	Insights from <i>in situ</i> analysis of TCRâ€“<scp>pMHC</scp> recognition: response of an interaction network. Immunological Reviews, 2013, 251, 49-64.	2.8	66
59	Actin depolymerization under force is governed by lysine 113:glutamic acid 195-mediated catch-slip bonds. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5022-5027.	3.3	66
60	Force regulated conformational change of integrin Î±VÎ²3. Matrix Biology, 2017, 60-61, 70-85.	1.5	66
61	Cooperative unfolding of distinctive mechanoreceptor domains transduces force into signals. ELife, 2016, 5, .	2.8	66
62	Probabilistic Modeling of Shear-Induced Formation and Breakage of Doublets Cross-Linked by Receptor-Ligand Bonds. Biophysical Journal, 1999, 76, 1112-1128.	0.2	62
63	Cell-specific, activation-dependent regulation of neutrophil CD32A ligand-binding function. Blood, 2000, 95, 1069-1077.	0.6	62
64	Ligand-engaged TCR is triggered by Lck not associated with CD8 coreceptor. Nature Communications, 2014, 5, 5624.	5.8	62
65	Pre-TCR ligand binding impacts thymocyte development before Î±Î²TCR expression. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8373-8378.	3.3	62
66	A Lupus-Associated Mac-1 Variant Has Defects in Integrin Allostery and Interaction with Ligands under Force. Cell Reports, 2015, 10, 1655-1664.	2.9	62
67	Accumulation of Serial Forces on TCR and CD8 Frequently Applied by Agonist Antigenic Peptides Embedded in MHC Molecules Triggers Calcium in T Cells. Journal of Immunology, 2014, 193, 68-76.	0.4	60
68	Kinetic Measurements of Cell Surface E-Selectin/Carbohydrate Ligand Interactions. Annals of Biomedical Engineering, 2001, 29, 935-946.	1.3	59
69	Molecular mechanisms of mechanotransduction in integrin-mediated cell-matrix adhesion. Experimental Cell Research, 2016, 349, 85-94.	1.2	59
70	The Membrane Anchor Influences Ligand Binding Two-dimensional Kinetic Rates and Three-dimensional Affinity of FcÎ³RIII (CD16). Journal of Biological Chemistry, 2000, 275, 10235-10246.	1.6	57
71	2<scp>D TCR</scp>â€“p<scp>MHC</scp>â€“<scp>CD</scp>8 kinetics determines <scp>T</scp>â€cell responses in a selfâ€antigenâ€specific <scp>TCR</scp> system. European Journal of Immunology, 2014, 44, 239-250.	1.6	57
72	Molecular Force Spectroscopy on Cells. Annual Review of Physical Chemistry, 2015, 66, 427-451.	4.8	57

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73	Catch bonds: physical models, structural bases, biological function and rheological relevance. Biorheology, 2005, 42, 443-62.	1.2	56
74	Concurrent and Independent Binding of FcÎ³ Receptors IIa and IIIb to Surface-Bound IgG. Biophysical Journal, 2000, 79, 1867-1875.	0.2	52
75	Two Stage Cadherin Kinetics Require Multiple Extracellular Domains but Not the Cytoplasmic Region. Journal of Biological Chemistry, 2008, 283, 1848-1856.	1.6	52
76	Shear-induced integrin signaling in platelet phosphatidylserine exposure, microvesicle release, and coagulation. Blood, 2018, 132, 533-543.	0.6	52
77	Affinity and Kinetic Analysis of FcÎ³ Receptor IIIa (CD16a) Binding to IgG Ligands. Journal of Biological Chemistry, 2007, 282, 6210-6221.	1.6	51
78	Memory in receptor-ligand-mediated cell adhesion. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18037-18042.	3.3	49
79	Replacing a Lectin Domain Residue in L-selectin Enhances Binding to P-selectin Glycoprotein Ligand-1 but Not to 6-Sulfo-sialyl Lewis x. Journal of Biological Chemistry, 2008, 283, 11493-11500.	1.6	49
80	Triphasic Force Dependence of E-Selectin/Ligand Dissociation Governs Cell Rolling under Flow. Biophysical Journal, 2010, 99, 1166-1174.	0.2	49
81	The integrin PSI domain has an endogenous thiol isomerase function and is a novel target for antiplatelet therapy. Blood, 2017, 129, 1840-1854.	0.6	48
82	Neutrophil FcÎ³RIIA promotes IgG-mediated glomerular neutrophil capture via Abl/Src kinases. Journal of Clinical Investigation, 2017, 127, 3810-3826.	3.9	48
83	Regulation of Catch Bonds by Rate of Force Application. Journal of Biological Chemistry, 2011, 286, 32749-32761.	1.6	46
84	Von Willebrand factor-A1 domain binds platelet glycoprotein IbÎ± in multiple states with distinctive force-dependent dissociation kinetics. Thrombosis Research, 2015, 136, 606-612.	0.8	46
85	Cis interaction between sialylated FcÎ³RIIA and the Î±I-domain of Mac-1 limits antibody-mediated neutrophil recruitment. Nature Communications, 2018, 9, 5058.	5.8	43
86	Dynamics of the Interaction of Human IgG Subtype Immune Complexes with Cells Expressing R and H Allelic Forms of a Low-Affinity FcÎ³ Receptor CD32A. Journal of Immunology, 2009, 183, 8216-8224.	0.4	41
87	PD-1 suppresses TCR-CD8 cooperativity during T-cell antigen recognition. Nature Communications, 2021, 12, 2746.	5.8	41
88	Concurrent Binding to Multiple Ligands: Kinetic Rates of CD16b for Membrane-Bound IgG1 and IgG2. Biophysical Journal, 2000, 79, 1858-1866.	0.2	39
89	Fluorescence Biomembrane Force Probe: Concurrent Quantitation of Receptor-ligand Kinetics and Binding-induced Intracellular Signaling on a Single Cell. Journal of Visualized Experiments, 2015, , e52975.	0.2	39
90	Compression force sensing regulates integrin Î±IIbÎ²3 adhesive function on diabetic platelets. Nature Communications, 2018, 9, 1087.	5.8	39

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91	Changes in Thermodynamic Stability of von Willebrand Factor Differentially Affect the Force-Dependent Binding to Platelet GPIbÎ±. Biophysical Journal, 2009, 97, 618-627.	0.2	38
92	T cell triggering: insights from 2D kinetics analysis of molecular interactions. Physical Biology, 2012, 9, 045005.	0.8	38
93	Molecular Biomechanics: The Molecular Basis of How Forces Regulate Cellular Function. Cellular and Molecular Bioengineering, 2010, 3, 91-105.	1.0	37
94	A Generalizable, Tunable Microfluidic Platform for Delivering Fast Temporally Varying Chemical Signals to Probe Single-Cell Response Dynamics. Analytical Chemistry, 2014, 86, 10138-10147.	3.2	37
95	The cellular environment regulates in situ kinetics of Tâ€cell receptor interaction with peptide major histocompatibility complex. European Journal of Immunology, 2015, 45, 2099-2110.	1.6	37
96	Flow induces loop-to-Â-hairpin transition on the Â-switch of platelet glycoprotein IbÂ. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 13847-13852.	3.3	36
97	Low 2-Dimensional CD4 T Cell Receptor Affinity for Myelin Sets in Motion Delayed Response Kinetics. PLoS ONE, 2012, 7, e32562.	1.1	36
98	Flow-Induced Structural Transition in the Î²-Switch Region of Glycoprotein Ib. Biophysical Journal, 2008, 95, 1303-1313.	0.2	35
99	Loss of the F-BAR protein CIP4 reduces platelet production by impairing membrane-cytoskeleton remodeling. Blood, 2013, 122, 1695-1706.	0.6	35
100	T cell antigen recognition at the cell membrane. Molecular Immunology, 2012, 52, 155-164.	1.0	34
101	Force-Induced Unfolding of Leucine-Rich Repeats of Glycoprotein IbÎ± Strengthens Ligand Interaction. Biophysical Journal, 2015, 109, 1781-1784.	0.2	34
102	Modeling Concurrent Binding of Multiple Molecular Species in Cell Adhesion. Biophysical Journal, 2000, 79, 1850-1857.	0.2	33
103	The Mechanism of VWF-Mediated Platelet GPIbÎ± Binding. Biophysical Journal, 2010, 99, 1192-1201.	0.2	33
104	Dual Biomembrane Force Probe enables single-cell mechanical analysis of signal crosstalk between multiple molecular species. Scientific Reports, 2017, 7, 14185.	1.6	33
105	A Coupled Diffusion-Kinetics Model for Analysis of Contact-Area FRAP Experiment. Biophysical Journal, 2008, 95, 910-919.	0.2	32
106	Insights into T Cell Recognition of Antigen: Significance of Two-Dimensional Kinetic Parameters. Frontiers in Immunology, 2012, 3, 86.	2.2	31
107	Dynamic bonds and their roles in mechanosensing. Current Opinion in Chemical Biology, 2019, 53, 88-97.	2.8	31
108	L-selectin mechanochemistry restricts neutrophil priming in vivo. Nature Communications, 2017, 8, 15196.	5.8	30

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109	Rheological aspects of red blood cell aggregation. Biorheology, 1990, 27, 309-325.	1.2	28
110	Mechanochemitry: A Molecular Biomechanics View of Mechanosensing. Annals of Biomedical Engineering, 2014, 42, 388-404.	1.3	28
111	Glycan Bound to the Selectin Low Affinity State Engages Glu-88 to Stabilize the High Affinity State under Force. Journal of Biological Chemistry, 2017, 292, 2510-2518.	1.6	28
112	Analysis of Competition Binding between Soluble and Membrane-Bound Ligands for Cell Surface Receptors. Biophysical Journal, 1999, 77, 3394-3406.	0.2	27
113	Quantifying the effects of contact duration, loading rate, and approach velocity on P-selectinâ€"PSGL-1 interactions using AFM. Polymer, 2006, 47, 2539-2547.	1.8	27
114	Local Cellular and Cytokine Cues in the Spleen Regulate In Situ T Cell Receptor Affinity, Function, and Fate of CD8 + T Cells. Immunity, 2016, 45, 988-998.	6.6	25
115	Biophysical basis underlying dynamic Lck activation visualized by ZapLck FRET biosensor. Science Advances, 2019, 5, eaau2001.	4.7	25
116	Catch bonds: physical models and biological functions. MCB Molecular and Cellular Biomechanics, 2005, 2, 91-104.	0.3	23
117	A catch to integrin activation. Nature Immunology, 2007, 8, 1035-1037.	7.0	22
118	MHC Variant Peptide-Mediated Anergy of Encephalitogenic T Cells Requires SHP-1. Journal of Immunology, 2008, 181, 6843-6849.	0.4	21
119	Molecular Stiffness of Selectins. Journal of Biological Chemistry, 2011, 286, 9567-9576.	1.6	21
120	Flow-Enhanced Stability of Rolling Adhesion through E-Selectin. Biophysical Journal, 2016, 111, 686-699.	0.2	21
121	Structural Basis and Kinetics of Force-Induced Conformational Changes of an Î±A Domain-Containing Integrin. PLoS ONE, 2011, 6, e27946.	1.1	20
122	P-Selectin Glycoprotein Ligand-1 Forms Dimeric Interactions with E-Selectin but Monomeric Interactions with L-Selectin on Cell Surfaces. PLoS ONE, 2013, 8, e57202.	1.1	20
123	The Differential Effect of Endothelial Cell Factors on In Vitro Motility of Malignant and Non-malignant Cells. Annals of Biomedical Engineering, 2008, 36, 958-969.	1.3	19
124	Molecular Dynamics Simulated Unfolding of von Willebrand Factor A Domains by Force. Cellular and Molecular Bioengineering, 2009, 2, 75-86.	1.0	19
125	Mechanotransduction in T Cell Development, Differentiation and Function. Cells, 2020, 9, 364.	1.8	19
126	Constitutive Lck Activity Drives Sensitivity Differences between CD8+ Memory T Cell Subsets. Journal of Immunology, 2016, 197, 644-654.	0.4	18

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127	Transport Regulation of Two-Dimensional Receptor-Ligand Association. Biophysical Journal, 2015, 108, 1773-1784.	0.2	17
128	Force-history dependence and cyclic mechanical reinforcement of actin filaments at the single molecular level. Journal of Cell Science, 2019, 132, .	1.2	17
129	In situ and in silico kinetic analyses of programmed cell death-1 (PD-1) receptor, programmed cell death ligands, and B7-1 protein interaction network. Journal of Biological Chemistry, 2017, 292, 6799-6809.	1.6	16
130	T cells like a firm molecular handshake. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 4335-4336.	3.3	15
131	A FRET-Based Biosensor for Imaging SYK Activities in Living Cells. Cellular and Molecular Bioengineering, 2011, 4, 670-677.	1.0	15
132	Regulatory and T Effector Cells Have Overlapping Low to High Ranges in TCR Affinities for Self during Demyelinating Disease. Journal of Immunology, 2015, 195, 4162-4170.	0.4	15
133	Distinct roles of ICOS and CD40L in human T-B cell adhesion and antibody production. Cellular Immunology, 2021, 368, 104420.	1.4	15
134	Imaging Spatiotemporal Activities of ZAP-70 in Live T Cells Using a FRET-Based Biosensor. Annals of Biomedical Engineering, 2016, 44, 3510-3521.	1.3	14
135	Regulation of actin catch-slip bonds with a RhoA-formin module. Scientific Reports, 2016, 6, 35058.	1.6	14
136	Benchmarks of Biomembrane Force Probe Spring Constant Models. Biophysical Journal, 2017, 113, 2842-2845.	0.2	14
137	Neuromechanobiology: An Expanding Field Driven by the Force of Greater Focus. Advanced Healthcare Materials, 2021, 10, e2100102.	3.9	14
138	A thermodynamic and biomechanical theory of cell adhesion Part I: General formulism. Journal of Theoretical Biology, 1991, 150, 27-50.	0.8	13
139	Membrane-based actuation for high-speed single molecule force spectroscopy studies using AFM. European Biophysics Journal, 2010, 39, 1219-1227.	1.2	13
140	Tyrosine Replacement of PSGL-1 Reduces Association Kinetics with P- and L-Selectin on the Cell Membrane. Biophysical Journal, 2012, 103, 777-785.	0.2	13
141	Effects of anchor structure and glycosylation of FcÎ³ receptor III on ligand binding affinity. Molecular Biology of the Cell, 2016, 27, 3449-3458.	0.9	13
142	Two-Dimensional Analysis of Cross-Junctional Molecular Interaction by Force Probes. Methods in Molecular Biology, 2017, 1584, 231-258.	0.4	12
143	Binary Time Series Modeling With Application to Adhesion Frequency Experiments. Journal of the American Statistical Association, 2008, 103, 1248-1259.	1.8	11
144	Adhesion Frequency Assay for In Situ Kinetics Analysis of Cross-Junctional Molecular Interactions at the Cell-Cell Interface. Journal of Visualized Experiments, 2011, , e3519.	0.2	11

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145	A Generalized Gaussian Process Model for Computer Experiments With Binary Time Series. Journal of the American Statistical Association, 2020, 115, 945-956.	1.8	11
146	Domain-specific mechanical modulation of VWFâ€"ADAMTS13 interaction. Molecular Biology of the Cell, 2019, 30, 1920-1929.	0.9	10
147	Calibration for Computer Experiments With Binary Responses and Application to Cell Adhesion Study. Journal of the American Statistical Association, 2020, 115, 1664-1674.	1.8	10
148	Fast Force Loading Disrupts Molecular Binding Stability in Human and Mouse Cell Adhesions. MCB Molecular and Cellular Biomechanics, 2019, 16, 211-223.	0.3	10
149	Thermo-Mechanical Responses of a Surface-Coupled AFM Cantilever. Journal of Biomechanical Engineering, 2005, 127, 1208-1215.	0.6	9
150	Probabilistic Modeling of Rosette Formation. Biophysical Journal, 2006, 91, 352-363.	0.2	9
151	Bending rigidities of cell surface molecules P-selectin and PSGL-1. Journal of Biomechanics, 2009, 42, 303-307.	0.9	9
152	Hidden Markov Models With Applications in Cell Adhesion Experiments. Journal of the American Statistical Association, 2013, 108, 1469-1479.	1.8	8
153	A model for cyclic mechanical reinforcement. Scientific Reports, 2016, 6, 35954.	1.6	8
154	Recombinant CD16A-Ig forms a homodimer and cross-blocks the ligand binding functions of neutrophil and monocyte FcÎ³ receptors. Molecular Immunology, 2002, 38, 527-538.	1.0	7
155	The kinetics of E-selectin- and P-selectin-induced intermediate activation of integrin Î±LÎ²2 on neutrophils. Journal of Cell Science, 2021, 134, .	1.2	6
156	Signaling mechanisms of the platelet glycoprotein Ib-IX complex. Platelets, 2022, 33, 823-832.	1.1	6
157	Cyclic Mechanical Reinforcement of Integrinâ€"Ligand Interactions. Molecular Cell, 2013, 49, 1176.	4.5	5
158	Single-molecule investigations of T-cell activation. Current Opinion in Biomedical Engineering, 2019, 12, 102-110.	1.8	5
159	Inhibitory affinity modulation of FcÎ³RIIA ligand binding by glycosphingolipids by inside-out signaling. Cell Reports, 2021, 35, 109142.	2.9	4
160	Simulated Thermal Unfolding of the von Willebrand Factor A Domains. Cellular and Molecular Bioengineering, 2010, 3, 117-127.	1.0	3
161	A Model for Single-Substrate Trimolecular Enzymatic Kinetics. Biophysical Journal, 2010, 98, 1957-1965.	0.2	3
162	Conformational Transition of Glycoprotein IbÎ± Mutants in Flow Molecular Dynamics Simulation. Cellular and Molecular Bioengineering, 2011, 4, 495-504.	1.0	3

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163	Mechanochemical coupling of formin-induced actin interaction at the level of single molecular complex. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1509-1521.	1.4	2
164	Catch Bonds of Integrin/Ligand Interactions. , 2012, , 77-96.		2
165	Immune-mediated alopecias and their mechanobiological aspects. Cells and Development, 2022, 170, 203793.	0.7	2
166	Surface roughness and molecular orientation strongly influence the forward but not the reverse rates of cell-bound receptor-ligand binding. , 0, , .		1
167	Integrin Dependence of Calu-1 Cell Motility on Endothelial Extracellular Matrix Proteins. Annals of Biomedical Engineering, 2008, 36, 970-979.	1.3	1
168	Chapter 7 Biophysical Regulation of Selectinâ€“Ligand Interactions Under Flow. Current Topics in Membranes, 2009, 64, 195-220.	0.5	1
169	An HMM-based algorithm for evaluating rates of receptor-ligand binding kinetics from thermal fluctuation data. Bioinformatics, 2013, 29, 1511-1518.	1.8	1
170	From cellular to molecular mechanobiology. APL Bioengineering, 2020, 4, 010902.	3.3	1
171	A Centrifugation Method for Measurement of Two-Dimensional Binding Characteristics of Receptor-Ligand Interaction. Drugs and the Pharmaceutical Sciences, 1999, , 261-298.	0.1	1
172	The differential effect of endothelial cell factors on in vitro motility of metastatic and non metastatic cells. , 0, , .		0
173	The kinetics and mechanics of cell adhesion molecules. , 0, , .		0
174	A Micropipet Aspiration System to Measure the Kinetics of Selectin/Ligand Interactions. International Journal of Nonlinear Sciences and Numerical Simulation, 2002, 3, .	0.4	0
175	Dynamics of surface receptor interactions required for an immune response. , 0, , .		0
176	The Slidingâ€“Rebinding Mechanism for Catch Bonds[*]. Japanese Journal of Applied Physics, 2007, 46, 5528.	0.8	0
177	The Roles of Membrane Rafts in CD32A-Mediated Phagocytosis. Nature Precedings, 2007, , .	0.1	0
178	Platelet receptor-mediated mechanosensing and thrombosis. , 2018, , 285-304.		0
179	Glycoprotein IbÎ± Forms Catch Bonds with von Willebrand Factor A1 Domain but Not with Mutant A1 Domains Exhibiting Properties of Type 2B von Willebrand Disease.. Blood, 2007, 110, 293-293.	0.6	0
180	Sliding-Rebinding Mechanism Governs Glycoprotein Ib/von Willebrand Factor Catch Bonds.. Blood, 2007, 110, 3723-3723.	0.6	0

#	Article	IF	Citations
181	Single-Molecule Measurements of Force-Induced Cleavage of VWF A1A2A3-Tridomain by ADAMTS13. Blood, 2008, 112, 3936-3936.	0.6	0
182	Single-Molecule Recognition: Extracting Information from Individual Binding Events and Their Correlation. , 2009, , 591-610.		0
183	The Study of GPIb-VWF Mediated Early-Stage Platelet Activation Triggering On a Single Cell. Blood, 2012, 120, 1069-1069.	0.6	0
184	Force-Induced Cooperative Unfolding of Two Distinctive Domains in a Single Gpibalpha Molecule. Blood, 2015, 126, 3449-3449.	0.6	0
185	Identification and Characterization of Integrin alphaIIbbeta3 Intermediate Affinity State Induced By Gpibalpha Mechanotransduction. Blood, 2015, 126, 237-237.	0.6	0