

Byron Goldstein

List of Publications by Year in descending order

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78
papers

3,575
citations

186265

28
h-index

138484

58
g-index

80
all docs

80
docs citations

80
times ranked

2805
citing authors

#	ARTICLE	IF	CITATIONS
1	Extending the Range of Rate Constants Available from BIACORE: Interpreting Mass Transport-Influenced Binding Data. <i>Biophysical Journal</i> , 1998, 75, 583-594.	0.5	389
2	BioNetGen: software for rule-based modeling of signal transduction based on the interactions of molecular domains. <i>Bioinformatics</i> , 2004, 20, 3289-3291.	4.1	381
3	Mathematical and computational models of immune-receptor signalling. <i>Nature Reviews Immunology</i> , 2004, 4, 445-456.	22.7	210
4	The complexity of complexes in signal transduction. <i>Biotechnology and Bioengineering</i> , 2003, 84, 783-794.	3.3	176
5	Investigation of Early Events in Fc μ RI-Mediated Signaling Using a Detailed Mathematical Model. <i>Journal of Immunology</i> , 2003, 170, 3769-3781.	0.8	172
6	T cell receptor binding kinetics required for T cell activation depend on the density of cognate ligand on the antigen-presenting cell. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 4824-4829.	7.1	151
7	A network model of early events in epidermal growth factor receptor signaling that accounts for combinatorial complexity. <i>BioSystems</i> , 2006, 83, 136-151.	2.0	141
8	Analysis of Cholera Toxin α -Ganglioside Interactions by Flow Cytometry α . <i>Biochemistry</i> , 2002, 41, 1742-1751.	2.5	120
9	Rule-based modeling of biochemical networks. <i>Complexity</i> , 2005, 10, 22-41.	1.6	110
10	Activated TCRs remain marked for internalization after dissociation from pMHC. <i>Nature Immunology</i> , 2002, 3, 926-931.	14.5	103
11	The influence of transport on the kinetics of binding to surface receptors: application to cells and BIAcore. <i>Journal of Molecular Recognition</i> , 1999, 12, 293-299.	2.1	92
12	Equilibrium Thermodynamics of Cell-Cell Adhesion Mediated by Multiple Ligand-Receptor Pairs. <i>Biophysical Journal</i> , 2004, 86, 1408-1423.	0.5	85
13	Lattice Boltzmann Simulation of Diffusion-Convection Systems with Surface Chemical Reaction. <i>Molecular Simulation</i> , 2000, 25, 145-156.	2.0	65
14	Aggregation of IgE-receptor complexes on rat basophilic leukemia cells does not change the intrinsic affinity but can alter the kinetics of the ligand-IgE interaction. <i>Biochemistry</i> , 1992, 31, 5350-5356.	2.5	63
15	Calculations Show Substantial Serial Engagement of T Cell Receptors. <i>Biophysical Journal</i> , 2001, 80, 606-612.	0.5	63
16	Aggregation of Membrane Proteins by Cytosolic Cross-Linkers: Theory and Simulation of the LAT-Grb2-SOS1 System. <i>Biophysical Journal</i> , 2009, 96, 2604-2623.	0.5	63
17	Cross-Linking of IgE-Receptor complexes at the cell surface: A fluorescence method for studying the binding of monovalent and bivalent haptens to IgE. <i>Molecular Immunology</i> , 1986, 23, 769-781.	2.2	60
18	Effective rate models for the analysis of transport-dependent biosensor data. <i>Mathematical Biosciences</i> , 1999, 159, 123-144.	1.9	57

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19	Modeling the early signaling events mediated by Fc γ RI. <i>Molecular Immunology</i> , 2002, 38, 1213-1219.	2.2	54
20	A model of cell activation and desensitization by surface immunoglobulin: The case of histamine release from human basophils. <i>Cell</i> , 1980, 22, 59-67.	28.9	47
21	Effective Rate Models for Receptors Distributed in a Layer above a Surface: Application to Cells and Biacore. <i>Biophysical Journal</i> , 2002, 82, 1743-1755.	0.5	45
22	On the mechanism of hemolytic plaque inhibition. <i>Immunochemistry</i> , 1974, 11, 661-665.	1.2	39
23	Effects of the Geometry of the Immunological Synapse on the Delivery of Effector Molecules. <i>Biophysical Journal</i> , 2004, 87, 2215-2220.	0.5	38
24	Guidelines for visualizing and annotating rule-based models. <i>Molecular BioSystems</i> , 2011, 7, 2779.	2.9	36
25	Analysis of the Role of the Interleukin-2 Receptor β Chain in Ligand Binding. <i>Biochemistry</i> , 2002, 41, 2543-2551.	2.5	35
26	Bivalent ligand dissociation kinetics from receptor-bound immunoglobulin E: evidence for a time-dependent increase in ligand rebinding at the cell surface. <i>Biochemistry</i> , 1991, 30, 2357-2363.	2.5	31
27	The kinetics of bivalent ligand-bivalent receptor aggregation: Ring formation and the breakdown of the equivalent site approximation. <i>Mathematical Biosciences</i> , 1995, 126, 171-190.	1.9	30
28	Kinetic Proofreading in Receptor-Mediated Transduction of Cellular Signals: Receptor Aggregation, Partially Activated Receptors, and Cytosolic Messengers. <i>Bulletin of Mathematical Biology</i> , 2002, 64, 887-911.	1.9	30
29	Interpretation of Scatchard plots for aggregating receptor systems. <i>Mathematical Biosciences</i> , 1992, 112, 115-154.	1.9	29
30	Kinetics of Tyrosine Phosphorylation When IgE Dimers Bind to FC γ Receptors on Rat Basophilic Leukemia Cells. <i>Journal of Biological Chemistry</i> , 1995, 270, 20264-20272.	3.4	29
31	Effect of Concentration and Intermolecular Forces on the Sedimentation of Polystyrene Spheres. <i>Journal of Chemical Physics</i> , 1971, 54, 4408-4413.	3.0	28
32	Transport effects on surface-volume biological reactions. <i>Journal of Mathematical Biology</i> , 1999, 39, 533.	1.9	28
33	Dissociation kinetics of bivalent ligand-immunoglobulin E aggregates in solution. <i>Biochemistry</i> , 1991, 30, 2348-2356.	2.5	26
34	Evidence for p55-p75 heterodimers in the absence of IL-2 from Scatchard plot analysis. <i>International Immunology</i> , 1992, 4, 23-32.	4.0	26
35	Solution Assembly of a Soluble, Heteromeric, High Affinity Interleukin-2 Receptor Complex. <i>Journal of Biological Chemistry</i> , 1995, 270, 16039-16044.	3.4	26
36	The Fc Segment of IgE Influences the Kinetics of Dissociation of a Symmetrical Bivalent Ligand from Cyclic Dimeric Complexes. <i>Biochemistry</i> , 1996, 35, 5518-5527.	2.5	26

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37	T cell activation: Kinetic proofreading, serial engagement and cell adhesion. <i>Journal of Computational and Applied Mathematics</i> , 2005, 184, 121-139.	2.0	25
38	A Mechanistic Model of Early FcγRI Signaling: Lipid Rafts and the Question of Protection from Dephosphorylation. <i>PLoS ONE</i> , 2012, 7, e51669.	2.5	25
39	Transport effects on surface-volume biological reactions. <i>Journal of Mathematical Biology</i> , 1999, 39, 533-561.	1.9	24
40	Quantification and Modeling of Tripartite CD2-, CD58FC Chimera (Alefacept)-, and CD16-mediated Cell Adhesion. <i>Journal of Biological Chemistry</i> , 2007, 282, 34748-34757.	3.4	23
41	Altered Patterns of Tyrosine Phosphorylation and Syk Activation for Sterically Restricted Cyclic Dimers of IgE-FcγRI. <i>Biochemistry</i> , 1997, 36, 2237-2242.	2.5	22
42	Theory of hapten binding to IgM: The question of repulsive interactions between binding sites. <i>Biophysical Chemistry</i> , 1975, 3, 363-367.	2.8	21
43	Membrane-Mediated Regulation of the Intrinsically Disordered CD3ζ Cytoplasmic Tail of the TCR. <i>Biophysical Journal</i> , 2015, 108, 2481-2491.	0.5	21
44	A thermodynamic model of binding of flexible bivalent haptens to antibody. <i>Immunochemistry</i> , 1978, 15, 307-313.	1.2	18
45	Modeling and Simulation of Aggregation of Membrane Protein LAT with Molecular Variability in the Number of Binding Sites for Cytosolic Grb2-SOS1-Grb2. <i>PLoS ONE</i> , 2012, 7, e28758.	2.5	18
46	Quantifying Intramolecular Binding in Multivalent Interactions: A Structure-Based Synergistic Study on Grb2-Sos1 Complex. <i>PLoS Computational Biology</i> , 2011, 7, e1002192.	3.2	17
47	Kinetic analysis of histamine release due to covalently linked ige dimers. <i>Molecular Immunology</i> , 1982, 19, 421-434.	2.2	16
48	'On-the-fly' or 'generate-first' modeling?. <i>Nature Biotechnology</i> , 2005, 23, 1344-1345.	17.5	16
49	Kinetic Proofreading Model. <i>Advances in Experimental Medicine and Biology</i> , 2008, 640, 82-94.	1.6	16
50	The effect of co-operativity on the equilibrium binding of symmetric bivalent ligands to antibodies: Theoretical results with application to histamine release from basophils. <i>Molecular Immunology</i> , 1987, 24, 151-161.	2.2	15
51	Effect of antibody emission rates on plaque morphology. <i>Nature</i> , 1975, 253, 637-639.	27.8	14
52	A Detailed Mathematical Model Predicts That Serial Engagement of IgE-FcγRI Complexes Can Enhance Syk Activation in Mast Cells. <i>Journal of Immunology</i> , 2010, 185, 3268-3276.	0.8	14
53	Kinetic Proofreading of Ligand-FcγRI Interactions May Persist beyond LAT Phosphorylation. <i>Journal of Immunology</i> , 2007, 178, 3530-3535.	0.8	13
54	Rates of diffusion-limited reaction in periodic systems. <i>Journal of Statistical Physics</i> , 1987, 49, 725-750.	1.2	12

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55	Binding Mechanisms of PEGylated Ligands Reveal Multiple Effects of the PEG Scaffold. <i>Biochemistry</i> , 2008, 47, 1017-1030.	2.5	12
56	Soluble MD2 increases TLR4 levels on the epithelial cell surface. <i>Cellular Immunology</i> , 2009, 255, 8-16.	3.0	12
57	Shaping the response: the role of Fc γ RI and Syk expression levels in mast cell signalling. <i>IET Systems Biology</i> , 2010, 4, 334-347.	1.5	12
58	A Theoretical and Experimental Study of Competition Between Solution and Surface Receptors for Ligand in a Biacore Flow Cell. <i>Bulletin of Mathematical Biology</i> , 2006, 68, 1125-1150.	1.9	11
59	Solution assembly of the pseudo-high affinity and intermediate affinity interleukin-2 receptor complexes. <i>Protein Science</i> , 1999, 8, 482-489.	7.6	11
60	Combinatorial diversity of Syk recruitment driven by its multivalent engagement with Fc γ RI β . <i>Molecular Biology of the Cell</i> , 2019, 30, 2331-2347.	2.1	11
61	Theory of melting of the triple helix poly (A + 2U) for a 1 : 2 mixture of Poly A to Poly U. <i>Biopolymers</i> , 1973, 12, 461-475.	2.4	10
62	Immunodiffusion in gels containing erythrocyte antigen I. Theory for diffusion of antiserum from a circular well. <i>Journal of Theoretical Biology</i> , 1975, 52, 317-334.	1.7	10
63	A quantitative approach to signal transduction. <i>Immunology Letters</i> , 1999, 68, 53-57.	2.5	8
64	Theory of a Helix-to-Coil Transition in a Triple-Stranded Macromolecule. <i>Journal of Chemical Physics</i> , 1969, 51, 431-434.	3.0	7
65	The electrophoretic hemolytic plaque assay - theory. <i>Biophysical Chemistry</i> , 1976, 4, 349-362.	2.8	7
66	Anomalies in sedimentation. I. Stability theory of sedimenting entanglements in the "tight-bending" limit. <i>Biopolymers</i> , 1973, 12, 857-867.	2.4	6
67	The hemolytic plaque assay: theory for finite layers. <i>Biophysical Chemistry</i> , 1977, 7, 15-32.	2.8	5
68	Diffusion Limited Reactions. <i>SIAM Journal on Applied Mathematics</i> , 2007, 67, 1147-1165.	1.8	5
69	A computer method for determining plaque size and plaque morphology. <i>Journal of Immunological Methods</i> , 1977, 16, 301-312.	1.4	3
70	A Biophysical Model of Cell Adhesion Mediated by Immunoaderin Drugs and Antibodies. <i>PLoS ONE</i> , 2011, 6, e19701.	2.5	3
71	Estimating the Probability of Polyreactive Antibodies 4E10 and 2F5 Disabling a gp41 Trimer after T Cell-HIV Adhesion. <i>PLoS Computational Biology</i> , 2014, 10, e1003431.	3.2	3
72	Immunodiffusion in gels containing erythrocyte antigen "I": Analysis of experiments involving the diffusion of antiserum from a circular well. <i>Immunochemistry</i> , 1976, 13, 29-33.	1.2	2

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73	The influence of transport on the kinetics of binding to surface receptors: application to cells and BIAcore. <i>Journal of Molecular Recognition</i> , 1999, 12, 293-299.	2.1	2
74	Interaction of Interleukin-2 with its Cell Surface Receptors: Interpretation of Equilibrium Binding Experiments via Scatchard Plots. , 1992, , 117-148.		1
75	The effect of indicator layer thickness on the interpretation of hemolytic plaque results. <i>Molecular Immunology</i> , 1979, 16, 395-400.	2.2	0
76	The time development of direct hemolytic plaques: Implications for the binding of IgM to cell surface haptens. <i>Molecular Immunology</i> , 1985, 22, 1323-1332.	2.2	0
77	Solution assembly of cytokine receptor ectodomain complexes. <i>Techniques in Protein Chemistry</i> , 1996, , 45-56.	0.3	0
78	Analysis of Ligand Binding and Cross-Linking of Receptors in Solution and on Cell Surfaces. , 1991, , 169-195.		0