Byron Goldstein

List of Publications by Year
in descending order

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	Combinatorial diversity of Syk recruitment driven by its multivalent engagement with FcÎμRIÎ³. Molecular Biology of the Cell, 2019, 30, 2331-2347.	2.1	11
2	Membrane-Mediated Regulation of the Intrinsically Disordered CD3Ïμ Cytoplasmic Tail of the TCR. Biophysical Journal, 2015, 108, 2481-2491.	0.5	21
3	Estimating the Probability of Polyreactive Antibodies 4E10 and 2F5 Disabling a gp41 Trimer after T Cell-HIV Adhesion. PLoS Computational Biology, 2014, 10, e1003431.	3.2	3
4	Modeling and Simulation of Aggregation of Membrane Protein LAT with Molecular Variability in the Number of Binding Sites for Cytosolic Grb2-SOS1-Grb2. PLoS ONE, 2012, 7, e28758.	2.5	18
5	A Mechanistic Model of Early FcÎμRI Signaling: Lipid Rafts and the Question of Protection from Dephosphorylation. PLoS ONE, 2012, 7, e51669.	2.5	25
6	Guidelines for visualizing and annotating rule-based models. Molecular BioSystems, 2011, 7, 2779.	2.9	36
7	A Biophysical Model of Cell Adhesion Mediated by Immunoadhesin Drugs and Antibodies. PLoS ONE, 2011, 6, e19701.	2.5	3
8	Quantifying Intramolecular Binding in Multivalent Interactions: A Structure-Based Synergistic Study on Grb2-Sos1 Complex. PLoS Computational Biology, 2011, 7, e1002192.	3.2	17
9	Shaping the response: the role of FcÎμRI and Syk expression levels in mast cell signalling. IET Systems Biology, 2010, 4, 334-347.	1.5	12
10	A Detailed Mathematical Model Predicts That Serial Engagement of IgEâ€“FcÎμRI Complexes Can Enhance Syk Activation in Mast Cells. Journal of Immunology, 2010, 185, 3268-3276.	0.8	14
11	Soluble MD2 increases TLR4 levels on the epithelial cell surface. Cellular Immunology, 2009, 255, 8-16.	3.0	12
12	Aggregation of Membrane Proteins by Cytosolic Cross-Linkers: Theory and Simulation of the LAT-Grb2-SOS1 System. Biophysical Journal, 2009, 96, 2604-2623.	0.5	63
13	Binding Mechanisms of PEGylated Ligands Reveal Multiple Effects of the PEG Scaffold. Biochemistry, 2008, 47, 1017-1030.	2.5	12
14	Kinetic Proofreading Model. Advances in Experimental Medicine and Biology, 2008, 640, 82-94.	1.6	16
15	Quantification and Modeling of Tripartite CD2-, CD58FC Chimera (Alefacept)-, and CD16-mediated Cell Adhesion. Journal of Biological Chemistry, 2007, 282, 34748-34757.	3.4	23
16	Kinetic Proofreading of Ligand-FcÎμRI Interactions May Persist beyond LAT Phosphorylation. Journal of Immunology, 2007, 178, 3530-3535.	0.8	13
17	Diffusion Limited Reactions. SIAM Journal on Applied Mathematics, 2007, 67, 1147-1165.	1.8	5
18	A network model of early events in epidermal growth factor receptor signaling that accounts for combinatorial complexity. BioSystems, 2006, 83, 136-151.	2.0	141

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19	A Theoretical and Experimental Study of Competition Between Solution and Surface Receptors for Ligand in a Biacore Flow Cell. Bulletin of Mathematical Biology, 2006, 68, 1125-1150.	1.9	11
20	T cell activation: Kinetic proofreading, serial engagement and cell adhesion. Journal of Computational and Applied Mathematics, 2005, 184, 121-139.	2.0	25
21	'On-the-fly' or 'generate-first' modeling?. Nature Biotechnology, 2005, 23, 1344-1345.	17.5	16
22	Rule-based modeling of biochemical networks. Complexity, 2005, 10, 22-41.	1.6	110
23	T cell receptor binding kinetics required for T cell activation depend on the density of cognate ligand on the antigen-presenting cell. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 4824-4829.	7.1	151
24	BioNetGen: software for rule-based modeling of signal transduction based on the interactions of molecular domains. Bioinformatics, 2004, 20, 3289-3291.	4.1	381
25	Mathematical and computational models of immune-receptor signalling. Nature Reviews Immunology, 2004, 4, 445-456.	22.7	210
26	Effects of the Geometry of the Immunological Synapse on the Delivery of Effector Molecules. Biophysical Journal, 2004, 87, 2215-2220.	0.5	38
27	Equilibrium Thermodynamics of Cell-Cell Adhesion Mediated by Multiple Ligand-Receptor Pairs. Biophysical Journal, 2004, 86, 1408-1423.	0.5	85
28	The complexity of complexes in signal transduction. Biotechnology and Bioengineering, 2003, 84, 783-794.	3.3	176
29	Investigation of Early Events in FcÎµRI-Mediated Signaling Using a Detailed Mathematical Model. Journal of Immunology, 2003, 170, 3769-3781.	0.8	172
30	Analysis of Cholera Toxinâˆ'Ganglioside Interactions by Flow Cytometryâ€. Biochemistry, 2002, 41, 1742-1751.	2.5	120
31	Effective Rate Models for Receptors Distributed in a Layer above a Surface: Application to Cells and Biacore. Biophysical Journal, 2002, 82, 1743-1755.	0.5	45
32	Modeling the early signaling events mediated by FcÎµRI. Molecular Immunology, 2002, 38, 1213-1219.	2.2	54
33	Analysis of the Role of the Interleukin-2 Receptor Î³ Chain in Ligand Bindingâ€. Biochemistry, 2002, 41, 2543-2551.	2.5	35
34	Kinetic Proofreading in Receptor-Mediated Transduction of Cellular Signals: Receptor Aggregation, Partially Activated Receptors, and Cytosolic Messengers. Bulletin of Mathematical Biology, 2002, 64, 887-911.	1.9	30
35	Activated TCRs remain marked for internalization after dissociation from pMHC. Nature Immunology, 2002, 3, 926-931.	14.5	103
36	Calculations Show Substantial Serial Engagement of T Cell Receptors. Biophysical Journal, 2001, 80, 606-612.	0.5	63

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37	Lattice Boltzmann Simulation of Diffusion-Convection Systems with Surface Chemical Reaction. Molecular Simulation, 2000, 25, 145-156.	2.0	65
38	A quantitative approach to signal transduction. Immunology Letters, 1999, 68, 53-57.	2.5	8
39	Transport effects on surface-volume biological reactions. Journal of Mathematical Biology, 1999, 39, 533-561.	1.9	24
40	The influence of transport on the kinetics of binding to surface receptors: application to cells and BIAcore. Journal of Molecular Recognition, 1999, 12, 293-299.	2.1	92
41	Effective rate models for the analysis of transport-dependent biosensor data. Mathematical Biosciences, 1999, 159, 123-144.	1.9	57
42	Solution assembly of the pseudoâ€high affinity and intermediate affinity interleukinâ€2 receptor complexes. Protein Science, 1999, 8, 482-489.	7.6	11
43	The influence of transport on the kinetics of binding to surface receptors: application to cells and BIAcore. Journal of Molecular Recognition, 1999, 12, 293-299.	2.1	2
44	Transport effects on surfaceâ€"volume biological reactions. Journal of Mathematical Biology, 1999, 39, 533.	1.9	28
45	Extending the Range of Rate Constants Available from BIACORE: Interpreting Mass Transport-Influenced Binding Data. Biophysical Journal, 1998, 75, 583-594.	0.5	389
46	Altered Patterns of Tyrosine Phosphorylation and Syk Activation for Sterically Restricted Cyclic Dimers of IgE-FcÎµRIâ€. Biochemistry, 1997, 36, 2237-2242.	2.5	22
47	The Fc Segment of IgE Influences the Kinetics of Dissociation of a Symmetrical Bivalent Ligand from Cyclic Dimeric Complexesâ€. Biochemistry, 1996, 35, 5518-5527.	2.5	26
48	Solution assembly of cytokine receptor ectodomain complexes. Techniques in Protein Chemistry, 1996, , 45-56.	0.3	0
49	Kinetics of Tyrosine Phosphorylation When IgE Dimers Bind to FCâˆŠ Receptors on Rat Basophilic Leukemia Cells. Journal of Biological Chemistry, 1995, 270, 20264-20272.	3.4	29
50	Solution Assembly of a Soluble, Heteromeric, High Affinity Interleukin-2 Receptor Complex. Journal of Biological Chemistry, 1995, 270, 16039-16044.	3.4	26
51	The kinetics of bivalent ligand-bivalent receptor aggregation: Ring formation and the breakdown of the equivalent site approximation. Mathematical Biosciences, 1995, 126, 171-190.	1.9	30
52	Evidence for p55â€"p75 heterodimers in the absence of IL-2 from Scatchard plot analysis. International Immunology, 1992, 4, 23-32.	4.0	26
53	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. Biochemistry, 1992, 31, 5350-5356.	2.5	63
54	Interpretation of Scatchard plots for aggregating receptor systems. Mathematical Biosciences, 1992, 112, 115-154.	1.9	29

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55	Interaction of Interleukin-2 with its Cell Surface Receptors: Interpretation of Equilibrium Binding Experiments via Scatchard Plots. , 1992, , 117-148.		1
56	Dissociation kinetics of bivalent ligand-immunoglobulin E aggregates in solution. Biochemistry, 1991, 30, 2348-2356.	2.5	26
57	Bivalent ligand dissociation kinetics from receptor-bound immunoglobulin E: evidence for a time-dependent increase in ligand rebinding at the cell surface. Biochemistry, 1991, 30, 2357-2363.	2.5	31
58	Analysis of Ligand Binding and Cross-Linking of Receptors in Solution and on Cell Surfaces. , 1991, , 169-195.		0
59	The effect of co-operativity on the equilibrium binding of symmetric bivalent ligands to antibodies: Theoretical results with application to histamine release from basophils. Molecular Immunology, 1987, 24, 151-161.	2.2	15
60	Rates of diffusion-limited reaction in periodic systems. Journal of Statistical Physics, 1987, 49, 725-750.	1.2	12
61	Cross-Linking of IgE-Receptor complexes at the cell surface: A fluorescence method for studying the binding of monovalent and bivalent haptens to IgE. Molecular Immunology, 1986, 23, 769-781.	2.2	60
62	The time development of direct hemolytic plaques: Implications for the binding of IgM to cell surface haptens. Molecular Immunology, 1985, 22, 1323-1332.	2.2	0
63	Kinetic analysis of histamine release due to covalently linked ige dimers. Molecular Immunology, 1982, 19, 421-434.	2.2	16
64	A model of cell activation and desensitization by surface immunoglobin: The case of histamine release from human basophils. Cell, 1980, 22, 59-67.	28.9	47
65	The effect of indicator layer thickness on the interpretation of hemolytic plaque results. Molecular Immunology, 1979, 16, 395-400.	2.2	0
66	A thermodynamic model of binding of flexible bivalent haptens to antibody. Immunochemistry, 1978, 15, 307-313.	1.2	18
67	A computer method for determining plaque size and plaque morphology. Journal of Immunological Methods, 1977, 16, 301-312.	1.4	3
68	The hemolytic plaque assay: theory for finite layers. Biophysical Chemistry, 1977, 7, 15-32.	2.8	5
69	Immunodiffusion in gels containing erythrocyte antigenâ€"II: Analysis of experiments involving the diffusion of antiserum from a circular well. Immunochemistry, 1976, 13, 29-33.	1.2	2
70	The electrophoretic hemolytic plaque assay - theory. Biophysical Chemistry, 1976, 4, 349-362.	2.8	7
71	Theory of hapten binding to IgM: The question of repulsive interactions between binding sites. Biophysical Chemistry, 1975, 3, 363-367.	2.8	21
72	Immunodiffusion in gels containing erythrocyte antigen I. Theory for diffusion of antiserum from a circular well. Journal of Theoretical Biology, 1975, 52, 317-334.	1.7	10

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73	Effect of antibody emission rates on plaque morphology. Nature, 1975, 253, 637-639.	27.8	14
74	On the mechanism of hemolytic plaque inhibition. Immunochemistry, 1974, 11, 661-665.	1.2	39
75	Theory of melting of the triple helix poly (A + 2U) for a 1 : 2 mixture of Poly A to Poly U. Biopolymers, 1973, 12, 461-475.	2.4	10
76	Anomalies in sedimentation. I. Stability theory of sedimenting entanglements in the ?tight-bending? limit. Biopolymers, 1973, 12, 857-867.	2.4	6
77	Effect of Concentration and Intermolecular Forces on the Sedimentation of Polystyrene Spheres. Journal of Chemical Physics, 1971, 54, 4408-4413.	3.0	28
78	Theory of a Helixâ€toâ€Coil Transition in a Tripleâ€Stranded Macromolecule. Journal of Chemical Physics, 1969, 51, 431-434.	3.0	7