Barbara A Baird

List of Publications by Citations

104 papers	5,801 citations	40 h-index	75 g-index
113 ext. papers	6,304 ext. citations	5.3 avg, IF	5.48 L-index

#	Paper	IF	Citations
104	Large-scale fluid/fluid phase separation of proteins and lipids in giant plasma membrane vesicles. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 3165-70	11.5	621
103	Critical fluctuations in plasma membrane vesicles. *ACS Chemical Biology*, **2008**, 3, 287-93	4.9	354
102	Critical role for cholesterol in Lyn-mediated tyrosine phosphorylation of FcepsilonRI and their association with detergent-resistant membranes. *Journal of Cell Biology*, **1999**, 145, 877-87	7.3	286
101	Compartmentalized activation of the high affinity immunoglobulin E receptor within membrane domains. *Journal of Biological Chemistry*, **1997**, 272, 4276-80	5.4	278
100	Quantitative analysis of phospholipids in functionally important membrane domains from RBL-2H3 mast cells using tandem high-resolution mass spectrometry. *Biochemistry*, **1999**, 38, 8056-63	3.2	256
99	Core/Shell fluorescent silica nanoparticles for chemical sensing: towards single-particle laboratories. *Small*, **2006**, 2, 723-6	11	252
98	Correlation functions quantify super-resolution images and estimate apparent clustering due to over-counting. *PLoS ONE*, **2012**, 7, e31457	3.7	210
97	Structural determinants for partitioning of lipids and proteins between coexisting fluid phases in giant plasma membrane vesicles. *Biochimica Et Biophysica Acta - Biomembranes*, **2008**, 1778, 20-32	3.8	173
96	Fluorescence anisotropy measurements of lipid order in plasma membranes and lipid rafts from RBL-2H3 mast cells. *Biochemistry*, **2001**, 40, 12422-9	3.2	133
95	A lipid raft environment enhances Lyn kinase activity by protecting the active site tyrosine from dephosphorylation. *Journal of Biological Chemistry*, **2003**, 278, 20746-52	5.4	127
94	Molecular clustering of STIM1 with Orai1/CRACM1 at the plasma membrane depends dynamically on depletion of Ca2+ stores and on electrostatic interactions. *Molecular Biology of the Cell*, **2009**, 20, 389-99	3.5	125
93	Visualization of plasma membrane compartmentalization with patterned lipid bilayers. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 13798-803	11.5	124
92	Lipid segregation and IgE receptor signaling: a decade of progress. *Biochimica Et Biophysica Acta - Molecular Cell Research*, **2005**, 1746, 252-9	4.9	119
91	Membrane organization in immunoglobulin E receptor signaling. *Current Opinion in Chemical Biology*, **1999**, 3, 95-9	9.7	118
90	Coexisting domains in the plasma membranes of live cells characterized by spin-label ESR spectroscopy. *Biophysical Journal*, **2006**, 90, 4452-65	2.9	112
89	Temporally resolved interactions between antigen-stimulated IgE receptors and Lyn kinase on living cells. *Journal of Cell Biology*, **2005**, 171, 527-36	7.3	111
88	Electron spin resonance characterization of liquid ordered phase of detergent-resistant membranes from RBL-2H3 cells. *Biophysical Journal*, **1999**, 77, 925-33	2.9	110

87	Cross-correlation analysis of inner-leaflet-anchored green fluorescent protein co-redistributed with IgE receptors and outer leaflet lipid raft components. *Biophysical Journal*, **2001**, 80, 2120-32	2.9	99
86	Structural aspects of the association of FcepsilonRI with detergent-resistant membranes. *Journal of Biological Chemistry*, **1999**, 274, 1753-8	5.4	93
85	Fc(epsilon)RI as a paradigm for a lipid raft-dependent receptor in hematopoietic cells. *Seminars in Immunology*, **2001**, 13, 99-105	10.7	85
84	Mast Cell Activation on Patterned Lipid Bilayers of Subcellular Dimensions. *Langmuir*, **2003**, 19, 1599-1605	4	84
83	Nanobiotechnology and cell biology: micro- and nanofabricated surfaces to investigate receptor-mediated signaling. *Annual Review of Biophysics*, **2008**, 37, 265-88	21.1	79
82	Trivalent ligands with rigid DNA spacers reveal structural requirements for IgE receptor signaling in RBL mast cells. *ACS Chemical Biology*, **2007**, 2, 674-84	4.9	75
81	Insights into immunoglobulin E receptor signaling from structurally defined ligands. *Immunological Reviews*, **2007**, 217, 269-79	11.3	75
80	How does the plasma membrane participate in cellular signaling by receptors for immunoglobulin E?. *Biophysical Chemistry*, **1999**, 82, 109-19	3.5	72
79	Fluorescence resonance energy transfer between lipid probes detects nanoscopic heterogeneity in the plasma membrane of live cells. *Biophysical Journal*, **2007**, 92, 3564-74	2.9	66
78	Stimulated association of STIM1 and Orai1 is regulated by the balance of PtdIns(4,5)P between distinct membrane pools. *Journal of Cell Science*, **2011**, 124, 2602-10	5.3	65
77	Bivalent ligands with rigid double-stranded DNA spacers reveal structural constraints on signaling by Fc epsilon RI. *Journal of Immunology*, **2002**, 169, 856-64	5.3	62
76	In situ measurement of degranulation as a biosensor based on RBL-2H3 mast cells. *Biosensors and Bioelectronics*, **2004**, 20, 791-6	11.8	61
75	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, 5350-6	3.2	59
74	Structural studies on the membrane-bound immunoglobulin E (IgE)-receptor complex. 2. Mapping of distances between sites on IgE and the membrane surface. *Biochemistry*, **1983**, 22, 3475-3484	3.2	58
73	Disruption of lipid order by short-chain ceramides correlates with inhibition of phospholipase D and downstream signaling by FcepsilonRI. *Journal of Cell Science*, **2003**, 116, 3177-87	5.3	56
72	Reconstitution of regulated phosphorylation of FcepsilonRI by a lipid raft-excluded protein-tyrosine phosphatase. *Journal of Biological Chemistry*, **2005**, 280, 1230-5	5.4	55
71	Highly effective poly(ethylene glycol) architectures for specific inhibition of immune receptor activation. *Biochemistry*, **2003**, 42, 12739-48	3.2	49
70	Transmembrane sequences are determinants of immunoreceptor signaling. *Journal of Immunology*, **2005**, 175, 2123-31	5.3	49

69	Distinct stages of stimulated FcεRI receptor clustering and immobilization are identified through superresolution imaging. *Biophysical Journal*, **2013**, 105, 2343-54	2.9	47
68	Evidence supporting a role for microfilaments in regulating the coupling between poorly dissociable IgE-Fc epsilonRI aggregates downstream signaling pathways. *Biochemistry*, **1997**, 36, 7447-56	3.2	47
67	Focal adhesion proteins connect IgE receptors to the cytoskeleton as revealed by micropatterned ligand arrays. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 17238-44	11.5	44
66	Functionalized surface arrays for spatial targeting of immune cell signaling. *Journal of the American Chemical Society*, **2006**, 128, 5594-5	16.4	44
65	Cellular responses to patterned poly(acrylic acid) brushes. *Langmuir*, **2011**, 27, 7016-23	4	40
64	Ca2+ waves initiate antigen-stimulated Ca2+ responses in mast cells. *Journal of Immunology*, **2009**, 183, 6478-88	5.3	38
63	The beta- and gamma-isoforms of type I PIP5K regulate distinct stages of Ca2+ signaling in mast cells. *Journal of Cell Science*, **2009**, 122, 2567-74	5.3	37
62	Mutant RBL mast cells defective in Fc epsilon RI signaling and lipid raft biosynthesis are reconstituted by activated Rho-family GTPases. *Molecular Biology of the Cell*, **2000**, 11, 3661-73	3.5	37
61	Quantitative nanoscale analysis of IgE-FcεRI clustering and coupling to early signaling proteins. *Journal of Physical Chemistry B*, **2012**, 116, 6923-35	3.4	33
60	Roles for ca(2+) mobilization and its regulation in mast cell functions. *Frontiers in Immunology*, **2012** , 3, 104	8.4	33
59	Lateral Diffusion of Membrane Lipid-Anchored Probes before and after Aggregation of Cell Surface IgE-Receptors *Journal of Physical Chemistry A*, **2003**, 107, 8310-8318	2.8	33
58	Differential targeting of secretory lysosomes and recycling endosomes in mast cells revealed by patterned antigen arrays. *Journal of Cell Science*, **2007**, 120, 3147-54	5.3	30
57	Microfilaments regulate the rate of exocytosis in rat basophilic leukemia cells. *Biochemical and Biophysical Research Communications*, **1990**, 171, 222-9	3.4	29
56	Functional nanoscale coupling of Lyn kinase with IgE-FcεRI is restricted by the actin cytoskeleton in early antigen-stimulated signaling. *Molecular Biology of the Cell*, **2016**, 27, 3645-3658	3.5	29
55	Antigen-stimulated trafficking from the recycling compartment to the plasma membrane in RBL mast cells. *Traffic*, **2003**, 4, 190-200	5.7	27
54	Electrospray mass spectra from protein electroeluted from sodium dodecylsulfate polyacrylamide gel electrophoresis gels. *Journal of the American Society for Mass Spectrometry*, **1999**, 10, 453-5	3.5	26
53	The Fc segment of IgE influences the kinetics of dissociation of a symmetrical bivalent ligand from cyclic dimeric complexes. *Biochemistry*, **1996**, 35, 5518-27	3.2	24
52	Rotational motion of monomeric and dimeric immunoglobulin E-receptor complexes. *Biochemistry*, **1992**, 31, 567-75	3.2	22

51	Graphene Oxide Nanosheets Stimulate Ruffling and Shedding of Mammalian Cell Plasma Membranes. *CheM*, **2016**, 1, 273-286	16.2	22
50	Rab11 Regulates the Mast Cell Exocytic Response. *Traffic*, **2016**, 17, 1027-41	5.7	21
49	The FcεRI Signaling Cascade and Integrin Trafficking Converge at Patterned Ligand Surfaces. *Molecular Biology of the Cell*, **2017**,	3.5	20
48	Roles for Ca2+ mobilization and its regulation in mast cell functions: recent progress. *Biochemical Society Transactions*, **2016**, 44, 505-9	5.1	20
47	Molecular mechanisms of spontaneous and directed mast cell motility. *Journal of Leukocyte Biology* , **2012**, 92, 1029-41	6.5	19
46	Structural mapping of IgE-Fc.epsilon.RI, an immunoreceptor complex. *Accounts of Chemical Research*, **1993**, 26, 428-434	24.3	18
45	Roles for lipid heterogeneity in immunoreceptor signaling. *Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids*, **2016**, 1861, 830-836	5	18
44	Spatially defined EGF receptor activation reveals an F-actin-dependent phospho-Erk signaling complex. *Biophysical Journal*, **2014**, 107, 2639-51	2.9	16
43	Inhibitors of PI(4,5)P2 synthesis reveal dynamic regulation of IgE receptor signaling by phosphoinositides in RBL mast cells. *Molecular Pharmacology*, **2013**, 83, 793-804	4.3	16
42	Molecular templates for bio-specific recognition by low-energy electron beam lithography. *Nanobiotechnology*, **2005**, 1, 023-034		16
41	Polyunsaturated fatty acids inhibit stimulated coupling between the ER Ca(2+) sensor STIM1 and the Ca(2+) channel protein Orai1 in a process that correlates with inhibition of stimulated STIM1 oligomerization. *Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids*, **2014**, 1841, 1210-6	5	14
40	Molecular anatomy of the early events in STIM1 activation - oligomerization or conformational change?. *Journal of Cell Science*, **2017**, 130, 2821-2832	5.3	13
39	Timescale Separation of Positive and Negative Signaling Creates History-Dependent Responses to IgE Receptor Stimulation. *Scientific Reports*, **2017**, 7, 15586	4.9	13
38	Real-time cross-correlation image analysis of early events in IgE receptor signaling. *Biophysical Journal*, **2008**, 94, 4996-5008	2.9	13
37	Nanodomains in early and later phases of FceRI signalling. *Essays in Biochemistry*, **2015**, 57, 147-63	7.6	12
36	Roles for SH2 and SH3 domains in Lyn kinase association with activated FcepsilonRI in RBL mast cells revealed by patterned surface analysis. *Journal of Structural Biology*, **2009**, 168, 161-7	3.4	12
35	Regulation of exocytosis and mitochondrial relocalization by Alpha-synuclein in a mammalian cell model. *Npj Parkinson's Disease*, **2019**, 5, 12	9.7	11
34	An Interaction Library for the FcεRI Signaling Network. *Frontiers in Immunology*, **2014**, 5, 172	8.4	11

33	2D-ELDOR study of heterogeneity and domain structure changes in plasma membrane vesicles upon cross-linking of receptors. *Journal of Physical Chemistry B*, **2011**, 115, 10462-9	3.4	11
32	Mechanisms of epidermal growth factor receptor signaling as characterized by patterned ligand activation and mutational analysis. *Biochimica Et Biophysica Acta - Biomembranes*, **2017**, 1859, 1430-1435	3.8	10
31	Real-time imaging of Ca(2+) mobilization and degranulation in mast cells. *Methods in Molecular Biology*, **2015**, 1220, 347-63	1.4	10
30	Computation of a Theoretical Membrane Phase Diagram and the Role of Phase in Lipid-Raft-Mediated Protein Organization. *Journal of Physical Chemistry B*, **2018**, 122, 3500-3513	3.4	10
29	Toxoplasma gondii inhibits mast cell degranulation by suppressing phospholipase C□mediated Ca(2+) mobilization. *Frontiers in Microbiology*, **2013**, 4, 179	5.7	10
28	Activation of Cdc42 is necessary for sustained oscillations of Ca2+ and PIP2 stimulated by antigen in RBL mast cells. *Biology Open*, **2014**, 3, 700-10	2.2	9
27	Polymer Brushes as Functional, Patterned Surfaces for Nanobiotechnology. *Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]*, **2013**, 25, 53-56	0.7	8
26	Mutations in the polybasic juxtamembrane sequence of both plasma membrane- and endoplasmic reticulum-localized epidermal growth factor receptors confer ligand-independent cell transformation. *Journal of Biological Chemistry*, **2013**, 288, 34930-42	5.4	7
25	Imaging FCS delineates subtle heterogeneity in plasma membranes of resting mast cells. *Molecular Biology of the Cell*, **2020**, 31, 709-723	3.5	7
24	Ultrasmall, Bright, and Photostable Fluorescent Core-Shell Aluminosilicate Nanoparticles for Live-Cell Optical Super-Resolution Microscopy. *Advanced Materials*, **2021**, 33, e2006829	24	7
23	Synthesis and Characterization of □bi[2,4-dinitrophenyl (DNP)] poly(2-methoxystyrene) Functional Polymers. Initial Evaluation of the Interaction of the Functional Polymers with RBL Mast Cells. *Journal of Macromolecular Science - Pure and Applied Chemistry*, **2008**, 45, 664-671	2.2	6
22	Lipid-based and protein-based interactions synergize transmembrane signaling stimulated by antigen clustering of IgE receptors. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	6
21	Sphingosine derivatives inhibit cell signaling by electrostatically neutralizing polyphosphoinositides at the plasma membrane. *Self/nonself*, **2010**, 1, 133-143		5
20	Characterization of model antigens composed of biotinylated haptens bound to avidin. *Immunological Investigations*, **1990**, 19, 1-25	2.9	5
19	Short chain ceramides disrupt immunoreceptor signaling by inhibiting segregation of Lo from Ld Plasma membrane components. *Biology Open*, **2018**, 7,	2.2	5
18	Fabrication of electroactive composite nanofibers of functionalized polymer and CNT capable of specifically binding with the IgE (Immunoglobulin E) antibody. *Surface and Interface Analysis*, **2014**, 46, 237-242	1.5	4
17	Enhancement of the recognition by cytotoxic T lymphocytes (CTL) of target membrane antigens after fusion with whole cells. *Cellular Immunology*, **1983**, 75, 312-27	4.4	4
16	A novel fluorescence-based biosynthetic trafficking method provides pharmacologic evidence that PI4-kinase III□s important for protein trafficking from the endoplasmic reticulum to the plasma membrane. *BMC Cell Biology*, **2015**, 16, 5		3

15	Bringing light to ER contacts and a new phase in organelle communication. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 9668-9670	11.5	3
14	Non-Faradaic Electrochemical Detection of Exocytosis from Mast and Chromaffin Cells Using Floating-Gate MOS Transistors. *Scientific Reports*, **2015**, 5, 18477	4.9	3
13	Micropatterned ligand arrays to study spatial regulation in Fc receptor signaling. *Methods in Molecular Biology*, **2011**, 748, 195-207	1.4	3
12	Beyond Media Composition: Cell Plasma Membrane Disruptions by Graphene Oxide. *CheM*, **2017**, 2, 324-325	18.2	2
11	Archetypical Conductive Polymer Structure for Specific Interaction with Proteins. *Journal of Macromolecular Science - Pure and Applied Chemistry*, **2012**, 49, 330-338	2.2	2
10	Micro- and Nanofabricating Lipid Patterns Using a Polymer-Based Wet Lift-Off. *Materials Research Society Symposia Proceedings*, **2001**, 705, 7181		1
9	Proteolytic digestion of the beta and gamma subunits of the receptor for immunoglobulin E at the cytoplasmic face of the plasma membrane. *Journal of Receptors and Signal Transduction*, **1989**, 9, 235-58		1
8	Regulation of Exocytosis and Mitochondrial Relocalization by Alpha-Synuclein in a Mammalian Cell Model		1
7	Lipid-based, protein-based, and steric interactions synergize to facilitate transmembrane signaling stimulated by antigen-clustering of IgE receptors		1
6	Micropatterned Ligand Arrays to Investigate Spatial Regulation of Cellular Signaling Initiated by Clustered Fc Receptors. *Methods in Molecular Biology*, **2022**, 2421, 1-19	1.4	0
5	Nanoscale Patterning of Antigen on Silicon Substrate to Examine Mast Cell Activation. *Materials Research Society Symposia Proceedings*, **2002**, 724, N4.3.1		
4	Symposia lectures. *Journal of Biosciences*, **1999**, 24, 5-31	2.3	
3	Activation of Cdc42 is critical for sustained Ca2+ oscillations stimulated by antigen crosslinking of IgE/FcεRI complexes in RBL mast cells (1013.3). *FASEB Journal*, **2014**, 28, 1013.3	0.9	
2	Micro-patterned arrays of epidermal growth factor (EGF) reveal stimulated association of paxillin, ERK, and F-actin with EGF receptors during cell signaling. *FASEB Journal*, **2012**, 26, 971.5	0.9	
1	Basic Amino Acids Within the Juxtamembrane Domain of the Epidermal Growth Factor Receptor Regulate Receptor Dimerization and Auto-phosphorylation. *Protein Journal*, **2020**, 39, 476-486	3.9	