Barbara A Baird

List of Publications by Year
in descending order

107 papers	6,640 citations	71097 41 h-index	64791 79 g-index
113 all docs	113 docs citations	113 times ranked	5982 citing authors

#	Article	IF	Citations
1	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, 3165-3170.	7.1	737
2	Critical Fluctuations in Plasma Membrane Vesicles. ACS Chemical Biology, 2008, 3, 287-293.	3.4	420
3	Critical Role for Cholesterol in Lyn-mediated Tyrosine Phosphorylation of FcÎµRI and Their Association with Detergent-resistant Membranes. Journal of Cell Biology, 1999, 145, 877-887.	5.2	306
4	Compartmentalized Activation of the High Affinity Immunoglobulin E Receptor within Membrane Domains. Journal of Biological Chemistry, 1997, 272, 4276-4280.	3.4	302
5	Quantitative Analysis of Phospholipids in Functionally Important Membrane Domains from RBL-2H3 Mast Cells Using Tandem High-Resolution Mass Spectrometryâ€. Biochemistry, 1999, 38, 8056-8063.	2.5	274
6	Core/Shell Fluorescent Silica Nanoparticles for Chemical Sensing: Towards Single-Particle Laboratories. Small, 2006, 2, 723-726.	10.0	273
7	Correlation Functions Quantify Super-Resolution Images and Estimate Apparent Clustering Due to Over-Counting. PLoS ONE, 2012, 7, e31457.	2.5	261
8	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.	2.6	200
9	A Lipid Raft Environment Enhances Lyn Kinase Activity by Protecting the Active Site Tyrosine from Dephosphorylation. Journal of Biological Chemistry, 2003, 278, 20746-20752.	3.4	151
10	Fluorescence Anisotropy Measurements of Lipid Order in Plasma Membranes and Lipid Rafts from RBL-2H3 Mast Cellsâ€. Biochemistry, 2001, 40, 12422-12429.	2.5	142
11	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, 389-399.	2.1	139
12	Visualization of plasma membrane compartmentalization with patterned lipid bilayers. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 13798-13803.	7.1	131
13	Lipid segregation and IgE receptor signaling: A decade of progress. Biochimica Et Biophysica Acta - Molecular Cell Research, 2005, 1746, 252-259.	4.1	129
14	Membrane organization in immunoglobulin E receptor signaling. Current Opinion in Chemical Biology, 1999, 3, 95-99.	6.1	128
15	Coexisting Domains in the Plasma Membranes of Live Cells Characterized by Spin-Label ESR Spectroscopy. Biophysical Journal, 2006, 90, 4452-4465.	0.5	128
16	Electron Spin Resonance Characterization of Liquid Ordered Phase of Detergent-Resistant Membranes from RBL-2H3 Cells. Biophysical Journal, 1999, 77, 925-933.	0.5	118
17	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, 2120-2132.	0.5	117
18	Temporally resolved interactions between antigen-stimulated IgE receptors and Lyn kinase on living cells. Journal of Cell Biology, 2005, 171, 527-536.	5.2	115

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19	Structural Aspects of the Association of FcÎµRI with Detergent-resistant Membranes. Journal of Biological Chemistry, 1999, 274, 1753-1758.	3.4	96
20	FcÎµRI as a paradigm for a lipid raft-dependent receptor in hematopoietic cells. Seminars in Immunology, 2001, 13, 99-105.	5.6	93
21	Mast Cell Activation on Patterned Lipid Bilayers of Subcellular Dimensionsâ€. Langmuir, 2003, 19, 1599-1605.	3.5	91
22	Nanobiotechnology and Cell Biology: Micro- and Nanofabricated Surfaces to Investigate Receptor-Mediated Signaling. Annual Review of Biophysics, 2008, 37, 265-288.	10.0	86
23	Trivalent Ligands with Rigid DNA Spacers Reveal Structural Requirements For IgE Receptor Signaling in RBL Mast Cells. ACS Chemical Biology, 2007, 2, 674-684.	3.4	83
24	Insights into immunoglobulin E receptor signaling from structurally defined ligands. Immunological Reviews, 2007, 217, 269-279.	6.0	82
25	Stimulated association of STIM1 and Orai1 is regulated by the balance of PtdIns(4,5)<i>P</i>2 between distinct membrane pools. Journal of Cell Science, 2011, 124, 2602-2610.	2.0	82
26	How does the plasma membrane participate in cellular signaling by receptors for immunoglobulin E?. Biophysical Chemistry, 1999, 82, 109-119.	2.8	76
27	Fluorescence Resonance Energy Transfer between Lipid Probes Detects Nanoscopic Heterogeneity in the Plasma Membrane of Live Cells. Biophysical Journal, 2007, 92, 3564-3574.	0.5	75
28	In situ measurement of degranulation as a biosensor based on RBL-2H3 mast cells. Biosensors and Bioelectronics, 2004, 20, 791-796.	10.1	71
29	Bivalent Ligands with Rigid Double-Stranded DNA Spacers Reveal Structural Constraints on Signaling by FcÎµRI. Journal of Immunology, 2002, 169, 856-864.	0.8	68
30	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.	2.5	67
31	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
32	Distinct Stages of Stimulated FcÎµRI Receptor Clustering and Immobilization Are Identified through Superresolution Imaging. Biophysical Journal, 2013, 105, 2343-2354.	0.5	61
33	Disruption of lipid order by short-chain ceramides correlates with inhibition of phospholipase D and downstream signaling by FcÎµRI. Journal of Cell Science, 2003, 116, 3177-3187.	2.0	59
34	Reconstitution of Regulated Phosphorylation of FcÎµRI by a Lipid Raft-excluded Protein-tyrosine Phosphatase. Journal of Biological Chemistry, 2005, 280, 1230-1235.	3.4	59
35	Highly Effective Poly(Ethylene Glycol) Architectures for Specific Inhibition of Immune Receptor Activation. Biochemistry, 2003, 42, 12739-12748.	2.5	55
36	Transmembrane Sequences Are Determinants of Immunoreceptor Signaling. Journal of Immunology, 2005, 175, 2123-2131.	0.8	53

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37	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, 17238-17244.	7.1	51
38	Functionalized Surface Arrays for Spatial Targeting of Immune Cell Signaling. Journal of the American Chemical Society, 2006, 128, 5594-5595.	13.7	49
39	Evidence Supporting a Role for Microfilaments in Regulating the Coupling between Poorly Dissociable IgEâˆFcÎµRI Aggregates and Downstream Signaling Pathways. Biochemistry, 1997, 36, 7447-7456.	2.5	48
40	Cellular Responses to Patterned Poly(acrylic acid) Brushes. Langmuir, 2011, 27, 7016-7023.	3.5	48
41	Ca2+ Waves Initiate Antigen-Stimulated Ca2+ Responses in Mast Cells. Journal of Immunology, 2009, 183, 6478-6488.	0.8	43
42	Roles for Ca2+ Mobilization and Its Regulation in Mast Cell Functions. Frontiers in Immunology, 2012, 3, 104.	4.8	43
43	Functional nanoscale coupling of Lyn kinase with IgE-FcÎµRI is restricted by the actin cytoskeleton in early antigen-stimulated signaling. Molecular Biology of the Cell, 2016, 27, 3645-3658.	2.1	41
44	Mutant RBL Mast Cells Defective in FcÎµRI Signaling and Lipid Raft Biosynthesis Are Reconstituted by Activated Rho-family GTPases. Molecular Biology of the Cell, 2000, 11, 3661-3673.	2.1	40
45	The Î²- and Î³-isoforms of type I PIP5K regulate distinct stages of Ca2+ signaling in mast cells. Journal of Cell Science, 2009, 122, 2567-2574.	2.0	40
46	Lateral Diffusion of Membrane Lipid-Anchored Probes before and after Aggregation of Cell Surface IgE-Receptorsâ€. Journal of Physical Chemistry A, 2003, 107, 8310-8318.	2.5	35
47	Quantitative Nanoscale Analysis of IgE-FcÎµRI Clustering and Coupling to Early Signaling Proteins. Journal of Physical Chemistry B, 2012, 116, 6923-6935.	2.6	35
48	Microfilaments regulate the rate of exocytosis in rat basophilic leukemia cells. Biochemical and Biophysical Research Communications, 1990, 171, 222-229.	2.1	31
49	Electrospray mass spectra from protein electroeluted from sodium dodecylsulfate polyacrylamide gel electrophoresis gels. Journal of the American Society for Mass Spectrometry, 1999, 10, 453-455.	2.8	30
50	Differential targeting of secretory lysosomes and recycling endosomes in mast cells revealed by patterned antigen arrays. Journal of Cell Science, 2007, 120, 3147-3154.	2.0	30
51	Graphene Oxide Nanosheets Stimulate Ruffling and Shedding of Mammalian Cell Plasma Membranes. CheM, 2016, 1, 273-286.	11.7	30
52	Antigenâ€Stimulated Trafficking from the Recycling Compartment to the Plasma Membrane in RBL Mast Cells. Traffic, 2003, 4, 190-200.	2.7	28
53	Rab11 Regulates the Mast Cell Exocytic Response. Traffic, 2016, 17, 1027-1041.	2.7	28
54	The FcÎµRI signaling cascade and integrin trafficking converge at patterned ligand surfaces. Molecular Biology of the Cell, 2017, 28, 3383-3396.	2.1	28

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55	Roles for lipid heterogeneity in immunoreceptor signaling. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2016, 1861, 830-836.	2.4	27
56	Roles for Ca2+ mobilization and its regulation in mast cell functions: recent progress. Biochemical Society Transactions, 2016, 44, 505-509.	3.4	27
57	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, .	7.1	27
58	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
59	Rotational motion of monomeric and dimeric immunoglobulin E-receptor complexes. Biochemistry, 1992, 31, 567-575.	2.5	23
60	Regulation of exocytosis and mitochondrial relocalization by Alpha-synuclein in a mammalian cell model. Npj Parkinson's Disease, 2019, 5, 12.	5.3	23
61	Molecular mechanisms of spontaneous and directed mast cell motility. Journal of Leukocyte Biology, 2012, 92, 1029-1041.	3.3	22
62	Structural mapping of IgE-Fc.epsilon.RI, an immunoreceptor complex. Accounts of Chemical Research, 1993, 26, 428-434.	15.6	21
63	Ultrasmall, Bright, and Photostable Fluorescent Coreâ€"Shell Aluminosilicate Nanoparticles for Liveâ€Cell Optical Superâ€Resolution Microscopy. Advanced Materials, 2021, 33, e2006829.	21.0	21
64	Inhibitors of PI(4,5)P₂Synthesis Reveal Dynamic Regulation of IgE Receptor Signaling by Phosphoinositides in RBL Mast Cells. Molecular Pharmacology, 2013, 83, 793-804.	2.3	20
65	Spatially Defined EGF Receptor Activation Reveals an F-Actin-Dependent Phospho-Erk Signaling Complex. Biophysical Journal, 2014, 107, 2639-2651.	0.5	20
66	Polyunsaturated fatty acids inhibit stimulated coupling between the ER Ca2+ sensor STIM1 and the Ca2+ 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, 1210-1216.	2.4	18
67	Timescale Separation of Positive and Negative Signaling Creates History-Dependent Responses to IgE Receptor Stimulation. Scientific Reports, 2017, 7, 15586.	3.3	18
68	Molecular Templates for Bio-specific Recognition by Low-Energy Electron Beam Lithography. Nanobiotechnology, 2005, 1, 023-034.	1.2	16
69	An Interaction Library for the FcÃŽÂµRI Signaling Network. Frontiers in Immunology, 2014, 5, 172.	4.8	16
70	Real-Time Imaging of Ca2+ Mobilization and Degranulation in Mast Cells. Methods in Molecular Biology, 2015, 1220, 347-363.	0.9	16
71	Molecular anatomy of the early events in STIM1 activation; oligomerization or conformational change?. Journal of Cell Science, 2017, 130, 2821-2832.	2.0	16
72	Imaging FCS delineates subtle heterogeneity in plasma membranes of resting mast cells. Molecular Biology of the Cell, 2020, 31, 709-723.	2.1	16

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73	Real-Time Cross-Correlation Image Analysis of Early Events in IgE Receptor Signaling. Biophysical Journal, 2008, 94, 4996-5008.	0.5	15
74	Nanodomains in early and later phases of FcÉ›RI signalling. Essays in Biochemistry, 2015, 57, 147-163.	4.7	15
75	Roles for SH2 and SH3 domains in Lyn kinase association with activated FcÎµRI in RBL mast cells revealed by patterned surface analysis. Journal of Structural Biology, 2009, 168, 161-167.	2.8	13
76	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.	2.6	13
77	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, 10462-10469.	2.6	12
78	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.	2.6	12
79	Activation of Cdc42 is necessary for sustained oscillations of Ca2+ and PIP2 stimulated by antigen in RBL mast cells. Biology Open, 2014, 3, 700-710.	1.2	11
80	Toxoplasma gondii inhibits mast cell degranulation by suppressing phospholipase CÎ³-mediated Ca2+ mobilization. Frontiers in Microbiology, 2013, 4, 179.	3.5	11
81	Polymer Brushes as Functional, Patterned Surfaces for Nanobiotechnology. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2012, 25, 53-56.	0.3	9
82	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, 34930-34942.	3.4	9
83	A palmitoylation code controls PI4KIIIÎ± complex formation and PI(4,5)P2 homeostasis at the plasma membrane. Journal of Cell Science, 2022, 135, .	2.0	9
84	Short chain ceramides disrupt immunoreceptor signaling by inhibiting segregation of Lo from Ld plasma membrane components. Biology Open, 2018, 7, .	1.2	8
85	Characterization of Model Antigens Composed of Biotinylated Haptens Bound to Avidin. Immunological Investigations, 1990, 19, 1-25.	2.0	6
86	Synthesis and Characterization of Î±,Ï‰â€bi[2,4â€dinitrophenyl (DNP)] poly(2â€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
87	Non-Faradaic Electrochemical Detection of Exocytosis from Mast and Chromaffin Cells Using Floating-Gate MOS Transistors. Scientific Reports, 2016, 5, 18477.	3.3	6
88	Enhancement of the recognition by cytotoxic T lymphocytes (CTL) of target membrane antigens after fusion with whole cells. Cellular Immunology, 1983, 75, 312-327.	3.0	5
89	Sphingosine derivatives inhibit cell signaling by electrostatically neutralizing polyphosphoinositides at the plasma membrane. Self/nonself, 2010, 1, 133-143.	2.0	5
90	A novel fluorescence-based biosynthetic trafficking method provides pharmacologic evidence that PI4-kinase IIIÎ± is important for protein trafficking from the endoplasmic reticulum to the plasma membrane. BMC Cell Biology, 2015, 16, 5.	3.0	5

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91	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.	1.8	4
92	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.	7.1	4
93	Archetypical Conductive Polymer Structure for Specific Interaction with Proteins. Journal of Macromolecular Science - Pure and Applied Chemistry, 2012, 49, 330-338.	2.2	3
94	Micropatterned Ligand Arrays to Study Spatial Regulation in Fc Receptor Signaling. Methods in Molecular Biology, 2011, 748, 195-207.	0.9	3
95	Transbilayer Coupling of Lipids in Cells Investigated by Imaging Fluorescence Correlation Spectroscopy. Journal of Physical Chemistry B, 2022, 126, 2325-2336.	2.6	3
96	Beyond Media Composition: Cell Plasma Membrane Disruptions by Graphene Oxide. CheM, 2017, 2, 324-325.	11.7	2
97	Micropatterned Ligand Arrays to Investigate Spatial Regulation of Cellular Signaling Initiated by Clustered Fc Receptors. Methods in Molecular Biology, 2022, 2421, 1-19.	0.9	2
98	Proteolytic Digestion of the Î² and Î³ Subunits of the Receptor for Immunoglobulin E at the Cytoplasmic Face of the Plasma Membrane. Journal of Receptors and Signal Transduction, 1989, 9, 235-258.	1.2	1
99	Micro- and Nanofabricating Lipid Patterns Using a Polymer-Based Wet Lift-Off. Materials Research Society Symposia Proceedings, 2001, 705, 7181.	0.1	1
100	Symposia lectures. Journal of Biosciences, 1999, 24, 5-31.	1.1	0
101	Nanoscale Patterning of Antigen on Silicon Substrate to Examine Mast Cell Activation. Materials Research Society Symposia Proceedings, 2002, 724, N4.3.1.	0.1	0
102	Response to Kang etÂal.. Biophysical Journal, 2011, 100, 793-794.	0.5	0
103	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.	1.6	0
104	Alpha and Gamma Isoforms of the Type I Phosphatidylinositol 4â€phosphate 5â€kinase Regulate Distinct Stages of the Ca 2+ Response in Mast Cells. FASEB Journal, 2008, 22, .	0.5	0
105	Microâ€patterned arrays of epidermal growth factor (EGF) reveal stimulated association of paxillin, ERK, and Fâ€actin with EGF receptors during cell signaling. FASEB Journal, 2012, 26, 971.5.	0.5	0
106	Activation of Cdc42 is critical for sustained Ca 2+ oscillations stimulated by antigen crosslinking of IgE/FcÎµRI complexes in RBL mast cells (1013.3). FASEB Journal, 2014, 28, 1013.3.	0.5	0
107	My path in the company of chemistry. Pure and Applied Chemistry, 2022, 94, 943-949.	1.9	0