Mark von Zastrow

List of Publications by Year
in descending order

121 papers	25,568 citations	9786 73 h-index	19749 117 g-index
164 all docs	164 docs citations	164 times ranked	28238 citing authors

#	Article	IF	Citations
1	A SARS-CoV-2 protein interaction map reveals targets for drug repurposing. Nature, 2020, 583, 459-468.	27.8	3,542
2	Control of Synaptic Strength by Glial TNFalpha. Science, 2002, 295, 2282-2285.	12.6	1,211
3	Functional Selectivity and Classical Concepts of Quantitative Pharmacology. Journal of Pharmacology and Experimental Therapeutics, 2007, 320, 1-13.	2.5	997
4	Endocytosis and signalling: intertwining molecular networks. Nature Reviews Molecular Cell Biology, 2009, 10, 609-622.	37.0	995
5	Ultrafast neuronal imaging of dopamine dynamics with designed genetically encoded sensors. Science, 2018, 360, .	12.6	773
6	Signal transduction and endocytosis: close encounters of many kinds. Nature Reviews Molecular Cell Biology, 2002, 3, 600-614.	37.0	763
7	Conformational biosensors reveal GPCR signalling from endosomes. Nature, 2013, 495, 534-538.	27.8	713
8	Regulation of<i>Âµ</i>-Opioid Receptors: Desensitization, Phosphorylation, Internalization, and Tolerance. Pharmacological Reviews, 2013, 65, 223-254.	16.0	673
9	Regulation of AMPA receptor endocytosis by a signaling mechanism shared with LTD. Nature Neuroscience, 2000, 3, 1291-1300.	14.8	660
10	Role of AMPA Receptor Cycling in Synaptic Transmission and Plasticity. Neuron, 1999, 24, 649-658.	8.1	641
11	A kinase-regulated PDZ-domain interaction controls endocytic sorting of the Î²2-adrenergic receptor. Nature, 1999, 401, 286-290.	27.8	637
12	Regulation of GPCRs by Endocytic Membrane Trafficking and Its Potential Implications. Annual Review of Pharmacology and Toxicology, 2008, 48, 537-568.	9.4	526
13	Morphine Activates Opioid Receptors without Causing Their Rapid Internalization. Journal of Biological Chemistry, 1996, 271, 19021-19024.	3.4	459
14	Microtubule Plus-End-Tracking Proteins Target Gap Junctions Directly from the Cell Interior to Adherens Junctions. Cell, 2007, 128, 547-560.	28.9	433
15	Rapid redistribution of glutamate receptors contributes to long-term depression in hippocampal cultures. Nature Neuroscience, 1999, 2, 454-460.	14.8	411
16	Functional Dissociation of Î¼ Opioid Receptor Signaling and Endocytosis. Neuron, 1999, 23, 737-746.	8.1	409
17	SNX27 mediates retromer tubule entry and endosome-to-plasma membrane trafficking of signalling receptors. Nature Cell Biology, 2011, 13, 715-721.	10.3	408
18	Role of ampa receptor endocytosis in synaptic plasticity. Nature Reviews Neuroscience, 2001, 2, 315-324.	10.2	396

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19	An Approach to Spatiotemporally Resolve Protein Interaction Networks in Living Cells. Cell, 2017, 169, 350-360.e12.	28.9	322
20	Regulation of Opioid Receptor Trafficking and Morphine Tolerance by Receptor Oligomerization. Cell, 2002, 108, 271-282.	28.9	308
21	Modulation of Postendocytic Sorting of G Protein-Coupled Receptors. Science, 2002, 297, 615-620.	12.6	298
22	Î¼-Opioid Receptor Internalization: Opiate Drugs Have Differential Effects on a Conserved Endocytic Mechanism<i>In Vitro</i>and in the Mammalian Brain. Molecular Pharmacology, 1998, 53, 377-384.	2.3	294
23	Sequence-Dependent Sorting of Recycling Proteins by Actin-Stabilized Endosomal Microdomains. Cell, 2010, 143, 761-773.	28.9	289
24	Signaling on the endocytic pathway. Current Opinion in Cell Biology, 2007, 19, 436-445.	5.4	247
25	Spatial encoding of cyclic AMP signaling specificity by GPCR endocytosis. Nature Chemical Biology, 2014, 10, 1061-1065.	8.0	238
26	A Genetically Encoded Biosensor Reveals Location Bias of Opioid Drug Action. Neuron, 2018, 98, 963-976.e5.	8.1	232
27	SNX27 mediates PDZ-directed sorting from endosomes to the plasma membrane. Journal of Cell Biology, 2010, 190, 565-574.	5.2	222
28	Cargo Regulates Clathrin-Coated Pit Dynamics. Cell, 2006, 127, 113-124.	28.9	220
29	Distinct Dynamin-dependent and -independent Mechanisms Target Structurally Homologous Dopamine Receptors to Different Endocytic Membranes. Journal of Cell Biology, 1999, 144, 31-43.	5.2	214
30	Rapid, Activation-Induced Redistribution of Ionotropic Glutamate Receptors in Cultured Hippocampal Neurons. Journal of Neuroscience, 1999, 19, 1263-1272.	3.6	195
31	Type-specific Sorting of G Protein-coupled Receptors after Endocytosis. Journal of Biological Chemistry, 2000, 275, 11130-11140.	3.4	195
32	Subcellular Organization of GPCR Signaling. Trends in Pharmacological Sciences, 2018, 39, 200-208.	8.7	187
33	Aripiprazole has Functionally Selective Actions at Dopamine D2 Receptor-Mediated Signaling Pathways. Neuropsychopharmacology, 2007, 32, 67-77.	5.4	186
34	Real-Time Imaging of Discrete Exocytic Events Mediating Surface Delivery of AMPA Receptors. Journal of Neuroscience, 2007, 27, 11112-11121.	3.6	184
35	Functional selectivity of GPCR-directed drug action through location bias. Nature Chemical Biology, 2017, 13, 799-806.	8.0	181
36	Subcellular localization of MC4R with ADCY3 at neuronal primary cilia underlies a common pathway for genetic predisposition to obesity. Nature Genetics, 2018, 50, 180-185.	21.4	175

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37	Catalytic activation of Î²-arrestin by GPCRs. Nature, 2018, 557, 381-386.	27.8	175
38	A Novel Endocytic Recycling Signal That Distinguishes the Membrane Trafficking of Naturally Occurring Opioid Receptors. Journal of Biological Chemistry, 2003, 278, 45978-45986.	3.4	171
39	GPCR signaling along the endocytic pathway. Current Opinion in Cell Biology, 2014, 27, 109-116.	5.4	170
40	Endocytosis Promotes Rapid Dopaminergic Signaling. Neuron, 2011, 71, 278-290.	8.1	167
41	Genetic evidence that Î²-arrestins are dispensable for the initiation of Î² ₂ -adrenergic receptor signaling to ERK. Science Signaling, 2017, 10, .	3.6	155
42	Î¼-Opioid Receptors: Ligand-Dependent Activation of Potassium Conductance, Desensitization, and Internalization. Journal of Neuroscience, 2002, 22, 5769-5776.	3.6	154
43	Mechanisms regulating membrane trafficking of G protein-coupled receptors in the endocytic pathway. Life Sciences, 2003, 74, 217-224.	4.3	151
44	Downregulation of G protein-coupled receptors. Current Opinion in Neurobiology, 2000, 10, 365-369.	4.2	142
45	Role of PDZ Proteins in Regulating Trafficking, Signaling, and Function of GPCRs: Means, Motif, and Opportunity. Advances in Pharmacology, 2011, 62, 279-314.	2.0	139
46	Morphine Promotes Rapid, Arrestin-Dependent Endocytosis of Î¼-Opioid Receptors in Striatal Neurons. Journal of Neuroscience, 2005, 25, 7847-7857.	3.6	134
47	Effects of endocytosis on receptor-mediated signaling. Current Opinion in Cell Biology, 2015, 35, 137-143.	5.4	134
48	An expanded palette of dopamine sensors for multiplex imaging in vivo. Nature Methods, 2020, 17, 1147-1155.	19.0	134
49	Î´ and Îº Opioid Receptors Are Differentially Regulated by Dynamin-dependent Endocytosis When Activated by the Same Alkaloid Agonist. Journal of Biological Chemistry, 1997, 272, 27124-27130.	3.4	130
50	Morphine Acutely Regulates Opioid Receptor Trafficking Selectively in Dendrites of Nucleus Accumbens Neurons. Journal of Neuroscience, 2003, 23, 4324-4332.	3.6	130
51	Endocytosis, Signaling, and Beyond. Cold Spring Harbor Perspectives in Biology, 2014, 6, a016865-a016865.	5.5	130
52	G Protein-coupled Receptor (GPCR) Signaling via Heterotrimeric G Proteins from Endosomes. Journal of Biological Chemistry, 2015, 290, 6689-6696.	3.4	128
53	Regulated Endocytosis of G-protein-coupled Receptors by a Biochemically and Functionally Distinct Subpopulation of Clathrin-coated Pits. Journal of Biological Chemistry, 1998, 273, 24592-24602.	3.4	126
54	Retromer Mediates a Discrete Route of Local Membrane Delivery to Dendrites. Neuron, 2014, 82, 55-62.	8.1	121

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55	A Transplantable Sorting Signal That Is Sufficient to Mediate Rapid Recycling of G Protein-coupled Receptors. Journal of Biological Chemistry, 2001, 276, 44712-44720.	3.4	117
56	Ubiquitination-independent Trafficking of G Protein-coupled Receptors to Lysosomes. Journal of Biological Chemistry, 2002, 277, 50219-50222.	3.4	116
57	Regulated endocytosis of opioid receptors: cellular mechanisms and proposed roles in physiological adaptation to opiate drugs. Current Opinion in Neurobiology, 2003, 13, 348-353.	4.2	115
58	Essential role of Hrs in a recycling mechanism mediating functional resensitization of cell signaling. EMBO Journal, 2005, 24, 2265-2283.	7.8	113
59	Differentiation of Opioid Drug Effects by Hierarchical Multi-Site Phosphorylation. Molecular Pharmacology, 2013, 83, 633-639.	2.3	113
60	Structure of an Arrestin2-Clathrin Complex Reveals a Novel Clathrin Binding Domain That Modulates Receptor Trafficking. Journal of Biological Chemistry, 2009, 284, 29860-29872.	3.4	108
61	The Psychiatric Cell Map Initiative: A Convergent Systems Biological Approach to Illuminating Key Molecular Pathways in Neuropsychiatric Disorders. Cell, 2018, 174, 505-520.	28.9	108
62	Role of Mammalian Vacuolar Protein-sorting Proteins in Endocytic Trafficking of a Non-ubiquitinated G Protein-coupled Receptor to Lysosomes. Journal of Biological Chemistry, 2004, 279, 22522-22531.	3.4	107
63	Dissociation of Functional Roles of Dynamin in Receptor-mediated Endocytosis and Mitogenic Signal Transduction. Journal of Biological Chemistry, 1999, 274, 24575-24578.	3.4	106
64	Molecular Pharmacology of<i>Î´</i>-Opioid Receptors. Pharmacological Reviews, 2016, 68, 631-700.	16.0	103
65	Regulation of Endocytic Clathrin Dynamics by Cargo Ubiquitination. Developmental Cell, 2012, 23, 519-532.	7.0	99
66	Quantitative Encoding of the Effect of a Partial Agonist on Individual Opioid Receptors by Multisite Phosphorylation and Threshold Detection. Science Signaling, 2011, 4, ra52.	3.6	98
67	Differential Activation and Trafficking of Î¼-Opioid Receptors in Brain Slices. Molecular Pharmacology, 2008, 74, 972-979.	2.3	97
68	SH3 Binding Domains in the Dopamine D4 Receptorâ€. Biochemistry, 1998, 37, 15726-15736.	2.5	95
69	Cargo-Mediated Regulation of a Rapid Rab4-Dependent Recycling Pathway. Molecular Biology of the Cell, 2009, 20, 2774-2784.	2.1	92
70	DISC1 Regulates Primary Cilia That Display Specific Dopamine Receptors. PLoS ONE, 2010, 5, e10902.	2.5	92
71	Mass Spectrometric Analysis of Agonist Effects on Posttranslational Modifications of the Î²-2 Adrenoceptor in Mammalian Cells. Biochemistry, 2005, 44, 6133-6143.	2.5	90
72	Recovery from Î¼-Opioid Receptor Desensitization after Chronic Treatment with Morphine and Methadone. Journal of Neuroscience, 2011, 31, 4434-4443.	3.6	84

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73	Role of Ubiquitination in Endocytic Trafficking of Gâ€Proteinâ€Coupled Receptors. Traffic, 2011, 12, 137-148.	2.7	84
74	When trafficking and signaling mix: How subcellular location shapes G proteinâ€coupled receptor activation of heterotrimeric G proteins. Traffic, 2019, 20, 130-136.	2.7	84
75	Distinct modes of regulated receptor insertion to the somatodendritic plasma membrane. Nature Neuroscience, 2006, 9, 622-627.	14.8	76
76	Phosphorylation Is Not Required for Dynamin-dependent Endocytosis of a Truncated Mutant Opioid Receptor. Journal of Biological Chemistry, 1998, 273, 24987-24991.	3.4	74
77	Dopamine receptors reveal an essential role of IFT-B, KIF17, and Rab23 in delivering specific receptors to primary cilia. ELife, 2015, 4, .	6.0	73
78	Ubiquitination Regulates Proteolytic Processing of G Protein-coupled Receptors after Their Sorting to Lysosomes. Journal of Biological Chemistry, 2009, 284, 19361-19370.	3.4	71
79	A Novel Interaction between Adrenergic Receptors and the Î±-Subunit of Eukaryotic Initiation Factor 2B. Journal of Biological Chemistry, 1997, 272, 19099-19102.	3.4	70
80	Identification of a Novel Endocytic Recycling Signal in the D1 Dopamine Receptor. Journal of Biological Chemistry, 2004, 279, 37461-37469.	3.4	67
81	The Role of Ubiquitination in Lysosomal Trafficking of Î´â€Opioid Receptors. Traffic, 2011, 12, 170-184.	2.7	67
82	A Simple Cell-Based Assay Reveals That Diverse Neuropsychiatric Risk Genes Converge on Primary Cilia. PLoS ONE, 2012, 7, e46647.	2.5	65
83	A Phosphorylation-regulated Brake Mechanism Controls the Initial Endocytosis of Opioid Receptors but Is Not Required for Post-endocytic Sorting to Lysosomes. Journal of Biological Chemistry, 2001, 276, 34331-34338.	3.4	64
84	Time-gated detection of protein-protein interactions with transcriptional readout. ELife, 2017, 6, .	6.0	64
85	Type I PDZ Ligands Are Sufficient to Promote Rapid Recycling of G Protein-coupled Receptors Independent of Binding to N-Ethylmaleimide-sensitive Factor*. Journal of Biological Chemistry, 2005, 280, 3305-3313.	3.4	62
86	The Î±-Arrestin ARRDC3 Regulates the Endosomal Residence Time and Intracellular Signaling of the Î²2-Adrenergic Receptor. Journal of Biological Chemistry, 2016, 291, 14510-14525.	3.4	62
87	Phosphorylated EGFR Dimers Are Not Sufficient to Activate Ras. Cell Reports, 2018, 22, 2593-2600.	6.4	62
88	GPR88 Reveals a Discrete Function of Primary Cilia as Selective Insulators of GPCR Cross-Talk. PLoS ONE, 2013, 8, e70857.	2.5	61
89	Neurokinin 1 Receptors Regulate Morphine-Induced Endocytosis and Desensitization of Î¼-Opioid Receptors in CNS Neurons. Journal of Neuroscience, 2009, 29, 222-233.	3.6	60
90	Functional Characterization of Vasopressin Type 2 Receptor Substitutions (R137H/C/L) Leading to Nephrogenic Diabetes Insipidus and Nephrogenic Syndrome of Inappropriate Antidiuresis: Implications for Treatments. Molecular Pharmacology, 2010, 77, 836-845.	2.3	59

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91	Alternative Splicing Determines the Post-endocytic Sorting Fate of G-protein-coupled Receptors. Journal of Biological Chemistry, 2008, 283, 35614-35621.	3.4	56
92	Dysbindin Promotes the Post-Endocytic Sorting of G Protein-Coupled Receptors to Lysosomes. PLoS ONE, 2010, 5, e9325.	2.5	53
93	Mechanisms for Regulating and Organizing Receptor Signaling by Endocytosis. Annual Review of Biochemistry, 2021, 90, 709-737.	11.1	51
94	A cell biologistâ€™s perspective on physiological adaptation to opiate drugs. Neuropharmacology, 2004, 47, 286-292.	4.1	47
95	Modulating Neuromodulation by Receptor Membrane Traffic in the Endocytic Pathway. Neuron, 2012, 76, 22-32.	8.1	45
96	Retromer Endosome Exit Domains Serve Multiple Trafficking Destinations and Regulate Local G Protein Activation by GPCRs. Current Biology, 2016, 26, 3129-3142.	3.9	44
97	A Discrete Presynaptic Vesicle Cycle for Neuromodulator Receptors. Neuron, 2020, 105, 663-677.e8.	8.1	42
98	Agonist-selective recruitment of engineered protein probes and of GRK2 by opioid receptors in living cells. ELife, 2020, 9, .	6.0	42
99	A Chemical Screen Identifies Class A G-Protein Coupled Receptors As Regulators of Cilia. ACS Chemical Biology, 2012, 7, 911-919.	3.4	38
100	Endosomal cAMP production broadly impacts the cellular phosphoproteome. Journal of Biological Chemistry, 2021, 297, 100907.	3.4	36
101	G protein-regulated endocytic trafficking of adenylyl cyclase type 9. ELife, 2020, 9, .	6.0	35
102	Rapid Delivery of Internalized Signaling Receptors to the Somatodendritic Surface by Sequence-Specific Local Insertion. Journal of Neuroscience, 2010, 30, 11703-11714.	3.6	34
103	Heterologous Inhibition of G Protein-coupled Receptor Endocytosis Mediated by Receptor-specific Trafficking of Î²-Arrestins. Journal of Biological Chemistry, 2001, 276, 17442-17447.	3.4	33
104	GIV/Girdin activates GÎ±i and inhibits GÎ±s via the same motif. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5721-30.	7.1	33
105	Imaging neuromodulators with high spatiotemporal resolution using genetically encoded indicators. Nature Protocols, 2019, 14, 3471-3505.	12.0	33
106	Spatial decoding of endosomal cAMP signals by a metastable cytoplasmic PKA network. Nature Chemical Biology, 2021, 17, 558-566.	8.0	31
107	Regulation of opioid receptors by endocytic membrane traffic: Mechanisms and translational implications. Drug and Alcohol Dependence, 2010, 108, 166-171.	3.2	30
108	G Proteinâ€“Coupled Receptor Endocytosis Confers Uniformity in Responses to Chemically Distinct Ligands. Molecular Pharmacology, 2017, 91, 145-156.	2.3	30

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109	Chemical Genetic Engineering of G Protein-coupled Receptor Kinase 2. Journal of Biological Chemistry, 2005, 280, 35051-35061.	3.4	26
110	A high-throughput CRISPR interference screen for dissecting functional regulators of GPCR/cAMP signaling. PLoS Genetics, 2020, 16, e1009103.	3.5	15
111	Opioid Receptor Regulation. NeuroMolecular Medicine, 2004, 5, 051-058.	3.4	14
112	Opioid Pharmacology under the Microscope. Molecular Pharmacology, 2020, 98, 425-432.	2.3	14
113	Endosomal Phosphatidylinositol 3-Kinase Is Essential for Canonical GPCR Signaling. Molecular Pharmacology, 2017, 91, 65-73.	2.3	9
114	Investigating Signaling Consequences of GPCR Trafficking in the Endocytic Pathway. Methods in Enzymology, 2014, 535, 403-418.	1.0	7
115	An Immunocytochemical Assay for Activity-Dependent Redistribution of Glutamate Receptors from the Postsynaptic Plasma Membrane. Annals of the New York Academy of Sciences, 1999, 868, 550-553.	3.8	6
116	Proteomic Approaches to Investigate Regulated Trafficking and Signaling of G Proteinâ€"Coupled Receptors. Molecular Pharmacology, 2021, 99, 392-398.	2.3	3
117	Editorial overview: Cell regulation: The ins and outs of G protein-coupled receptors. Current Opinion in Cell Biology, 2014, 27, v-vi.	5.4	2
118	A Molecular Landscape of Mouse Hippocampal Neuromodulation. Frontiers in Neural Circuits, 2022, 16, .	2.8	2
119	A highâ€throughput CRISPR interference screen for dissecting functional regulators of GPCR/cAMP signaling. FASEB Journal, 2021, 35, .	0.5	1
120	A functional genomics approach identifies GPCR endocytosisâ€regulating kinases. FASEB Journal, 2010, 24, 585.7.	0.5	0
121	A Live-Cell Imaging Assay for Nuclear Entry of cAMP-Dependent Protein Kinase Catalytic Subunits Stimulated by Endogenous GPCR Activation. Methods in Molecular Biology, 2022, 2483, 339-349.	0.9	0