Alan V Smrcka

List of Publications by Year
in descending order

113 papers	6,338 citations	57758 44 h-index	69250 77 g-index
122 all docs	122 docs citations	122 times ranked	6841 citing authors

#	Article	IF	Citations
1	Roles of PLC-2 and -3 and PI3K in Chemoattractant-Mediated Signal Transduction. Science, 2000, 287, 1046-1049.	12.6	817
2	Positional cloning uncovers mutations in PLCE1 responsible for a nephrotic syndrome variant that may be reversible. Nature Genetics, 2006, 38, 1397-1405.	21.4	510
3	Directional Sensing Requires GÎ²Î³-Mediated PAK1 and PIXÎ±-Dependent Activation of Cdc42. Cell, 2003, 114, 215-227.	28.9	362
4	Differential Targeting of GÂÂ-Subunit Signaling with Small Molecules. Science, 2006, 312, 443-446.	12.6	214
5	Regulation of phospholipase C by G proteins. Trends in Biochemical Sciences, 1992, 17, 502-506.	7.5	197
6	Epac and Phospholipase CÏµ Regulate Ca2+ Release in the Heart by Activation of Protein Kinase CÏµ and Calcium-Calmodulin Kinase II. Journal of Biological Chemistry, 2009, 284, 1514-1522.	3.4	171
7	Epac-mediated Activation of Phospholipase CÉ› Plays a Critical Role in Î²-Adrenergic Receptor-dependent Enhancement of Ca2+ Mobilization in Cardiac Myocytes. Journal of Biological Chemistry, 2007, 282, 5488-5495.	3.4	158
8	Phospholipase CÎµ Hydrolyzes Perinuclear Phosphatidylinositol 4-Phosphate to Regulate Cardiac Hypertrophy. Cell, 2013, 153, 216-227.	28.9	150
9	Role of phospholipase CÎµ in physiological phosphoinositide signaling networks. Cellular Signalling, 2012, 24, 1333-1343.	3.6	130
10	G Proteinâ€"Coupled Receptorâ€"Mediated Activation of p110Î² by GÎ²Î³ Is Required for Cellular Transformation and Invasiveness. Science Signaling, 2012, 5, ra89.	3.6	127
11	Pertussis Toxin-sensitive Activation of Phospholipase C by the C5a and fMet-Leu-Phe Receptors. Journal of Biological Chemistry, 1996, 271, 13430-13434.	3.4	121
12	Targeting G protein-coupled receptor signalling by blocking G proteins. Nature Reviews Drug Discovery, 2018, 17, 789-803.	46.4	121
13	Phospholipase C Îµ Modulates Î²-Adrenergic Receptorâ€" Dependent Cardiac Contraction and Inhibits Cardiac Hypertrophy. Circulation Research, 2005, 97, 1305-1313.	4.5	118
14	Small Molecule Disruption of GÎ²Î³ Signaling Inhibits the Progression of Heart Failure. Circulation Research, 2010, 107, 532-539.	4.5	117
15	A Tyrosine Kinase Signaling Pathway Accounts for the Majority of Phosphatidylinositol 3,4,5-Trisphosphate Formation in Chemoattractant-stimulated Human Neutrophils. Journal of Biological Chemistry, 1996, 271, 25204-25207.	3.4	109
16	Hormonal regulation of phospholipase Cepsilon through distinct and overlapping pathways involving G12 and Ras family G-proteins. Biochemical Journal, 2004, 378, 129-139.	3.7	99
17	GÎ²Î³ Activation of Src Induces Caveolae-mediated Endocytosis in Endothelial Cells. Journal of Biological Chemistry, 2004, 279, 48055-48062.	3.4	86
18	Phospholipase Câˆ Scaffolds to Muscle-specific A Kinase Anchoring Protein (mAKAPÎ²) and Integrates Multiple Hypertrophic Stimuli in Cardiac Myocytes. Journal of Biological Chemistry, 2011, 286, 23012-23021.	3.4	86

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19	Golgi localized Î²1-adrenergic receptors stimulate Golgi PI4P hydrolysis by PLCÎµ to regulate cardiac hypertrophy. ELife, 2019, 8, .	6.0	79
20	G-protein-coupled Receptor Agonists Activate Endogenous Phospholipase CÎµ and Phospholipase CÎ²3 in a Temporally Distinct Manner. Journal of Biological Chemistry, 2006, 281, 2639-2648.	3.4	76
21	Structural and Molecular Characterization of a Preferred Protein Interaction Surface on G Protein Î²Î³ Subunitsâ€. Biochemistry, 2005, 44, 10593-10604.	2.5	74
22	Identification of a Structural Element in Phospholipase C Î²2 That Interacts with G Protein Î²Î³ Subunits. Journal of Biological Chemistry, 1998, 273, 7148-7154.	3.4	72
23	Understanding Molecular Recognition by G protein Î²Î³ Subunits on the Path to Pharmacological Targeting. Molecular Pharmacology, 2011, 80, 551-557.	2.3	71
24	Phospholipase CÉ› links G protein-coupled receptor activation to inflammatory astrocytic responses. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3609-3614.	7.1	70
25	Phospholipase C-Îµ links Epac2 activation to the potentiation of glucose-stimulated insulin secretion from mouse islets of Langerhans. Islets, 2011, 3, 121-128.	1.8	68
26	Phospholipase CÎµ is a nexus for Rho and Rap-mediated G protein-coupled receptor-induced astrocyte proliferation. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15543-15548.	7.1	67
27	A Novel GÎ²Î³-Subunit Inhibitor Selectively Modulates Î¼-Opioid-Dependent Antinociception and Attenuates Acute Morphine-Induced Antinociceptive Tolerance and Dependence. Journal of Neuroscience, 2008, 28, 12183-12189.	3.6	67
28	Identification of a receptor-independent activator of G protein signaling (AGS8) in ischemic heart and its interaction with GbetaÂ. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 797-802.	7.1	66
29	Subunit Dissociation and Diffusion Determine the Subcellular Localization of Rod and Cone Transducins. Journal of Neuroscience, 2007, 27, 5484-5494.	3.6	66
30	Stimulation of Cellular Signaling and G Protein Subunit Dissociation by G Protein Î²Î³ Subunit-binding Peptides. Journal of Biological Chemistry, 2003, 278, 19634-19641.	3.4	64
31	Epac2-dependent mobilization of intracellular Ca²⁺by glucagon-like peptide-1 receptor agonist exendin-4 is disrupted in Î²-cells of phospholipase C-É› knockout mice. Journal of Physiology, 2010, 588, 4871-4889.	2.9	61
32	Phospholipase C Î²2 Association with Phospholipid Interfaces Assessed by Fluorescence Resonance Energy Transfer. Journal of Biological Chemistry, 1996, 271, 25071-25078.	3.4	60
33	Receptor- and Nucleotide Exchange-independent Mechanisms for Promoting G Protein Subunit Dissociation. Journal of Biological Chemistry, 2003, 278, 34747-34750.	3.4	59
34	Purification of Heterotrimeric G Protein Î± Subunits by GST-Ric-8 Association. Journal of Biological Chemistry, 2011, 286, 2625-2635.	3.4	59
35	Molecular targeting of GÎ± and GÎ²Î³ subunits: a potential approach for cancer therapeutics. Trends in Pharmacological Sciences, 2013, 34, 290-298.	8.7	57
36	Regulation of Immature Dendritic Cell Migration by RhoA Guanine Nucleotide Exchange Factor Arhgef5. Journal of Biological Chemistry, 2009, 284, 28599-28606.	3.4	56

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37	Regulatory Interactions between the Amino Terminus of G-protein Î²Î³ Subunits and the Catalytic Domain of Phospholipase CÎ²2. Journal of Biological Chemistry, 2005, 280, 10174-10181.	3.4	54
38	PLCÎµ, PKD1, and SSH1L Transduce RhoA Signaling to Protect Mitochondria from Oxidative Stress in the Heart. Science Signaling, 2013, 6, ra108.	3.6	54
39	Gedunin- and Khivorin-Derivatives Are Small-Molecule Partial Agonists for Adhesion G Protein-Coupled Receptors GPR56/ADGRG1 and GPR114/ADGRG5. Molecular Pharmacology, 2018, 93, 477-488.	2.3	54
40	Identification of Activators of ERK5 Transcriptional Activity by High-Throughput Screening and the Role of Endothelial ERK5 in Vasoprotective Effects Induced by Statins and Antimalarial Agents. Journal of Immunology, 2014, 193, 3803-3815.	0.8	51
41	A Docking Site for G Protein Î²Î³ Subunits on the Parathyroid Hormone 1 Receptor Supports Signaling through Multiple Pathways. Molecular Endocrinology, 2006, 20, 136-146.	3.7	50
42	Programming of Distinct Chemokine-Dependent and -Independent Search Strategies for Th1 and Th2 Cells Optimizes Function at Inflamed Sites. Immunity, 2019, 51, 298-309.e6.	14.3	50
43	G-protein Î²Î³ subunits as multi-functional scaffolds and transducers in G-protein-coupled receptor signaling. Cellular and Molecular Life Sciences, 2019, 76, 4447-4459.	5.4	50
44	Selective Role of G Protein Î³ Subunits in Receptor Interaction. Journal of Biological Chemistry, 2000, 275, 38961-38964.	3.4	47
45	Dihydromunduletone Is a Small-Molecule Selective Adhesion G Proteinâ€"Coupled Receptor Antagonist. Molecular Pharmacology, 2016, 90, 214-224.	2.3	47
46	Simultaneous Adrenal and Cardiac G-Proteinâ€"Coupled Receptor-GÎ²Î³ Inhibition Halts Heart Failure Progression. Journal of the American College of Cardiology, 2014, 63, 2549-2557.	2.8	46
47	G Protein β γ Subunits as Targets for Small Molecule Therapeutic Development. Combinatorial Chemistry and High Throughput Screening, 2008, 11, 382-395.	1.1	42
48	A Chemical Biology Approach Demonstrates G Protein Î²Î³ Subunits Are Sufficient to Mediate Directional Neutrophil Chemotaxis. Journal of Biological Chemistry, 2014, 289, 17791-17801.	3.4	42
49	Targeted calcium influx boosts cytotoxic T lymphocyte function in the tumour microenvironment. Nature Communications, 2017, 8, 15365.	12.8	41
50	Signaling by a Non-dissociated Complex of G Protein Î²Î³ and Î± Subunits Stimulated by a Receptor-independent Activator of G Protein Signaling, AGS8. Journal of Biological Chemistry, 2007, 282, 19938-19947.	3.4	38
51	Role of the Î³ Subunit Prenyl Moiety in G Protein Î²Î³ Complex Interaction with Phospholipase CÎ². Journal of Biological Chemistry, 2001, 276, 41797-41802.	3.4	36
52	Supraspinal GÎ²Î³â€dependent stimulation of PLCÎ²₃ originating from G inhibitory proteinâ€Î¼ opioid receptorâ€coupling is necessary for morphine induced acute hyperalgesia. Journal of Neurochemistry, 2009, 111, 171-180.	3.9	35
53	Protease-activated receptor 1 (PAR1) coupling to Gq/11 but not to Gi/o or G12/13 is mediated by discrete amino acids within the receptor second intracellular loop. Cellular Signalling, 2012, 24, 1351-1360.	3.6	34
54	Ric-8 Enhances G Protein Î²Î³-Dependent Signaling in Response to Î²Î³-Binding Peptides in Intact Cells. Molecular Pharmacology, 2005, 68, 129-136.	2.3	33

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55	G protein Î²Î³ subunits directly interact with and activate phospholipase CÎ•. Journal of Biological Chemistry, 2018, 293, 6387-6397.	3.4	33
56	A universal allosteric mechanism for G protein activation. Molecular Cell, 2021, 81, 1384-1396.e6.	9.7	33
57	Phosphatidylinositol 4-phosphate is a major source of GPCR-stimulated phosphoinositide production. Science Signaling, 2018, 11, .	3.6	32
58	Adenylyl Cyclase 5 Regulation by G<i>Î²Î³</i>Involves Isoform-Specific Use of Multiple Interaction Sites. Molecular Pharmacology, 2015, 88, 758-767.	2.3	31
59	Taking the heart failure battle inside the cell: Small molecule targeting of GÎ²Î³ subunits. Journal of Molecular and Cellular Cardiology, 2011, 51, 462-467.	1.9	29
60	Dynamic regulation of neutrophil polarity and migration by the heterotrimeric G protein subunits GÎ± _i -GTP and GÎ²Î³. Science Signaling, 2016, 9, ra22.	3.6	29
61	Phospholipase C Epsilon (PLCÎµ) Induced TRPC6 Activation: A Common but Redundant Mechanism in Primary Podocytes. Journal of Cellular Physiology, 2015, 230, 1389-1399.	4.1	27
62	Phospholipase C-Îµ signaling mediates endothelial cell inflammation and barrier disruption in acute lung injury. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2016, 311, L517-L524.	2.9	27
63	NMR analysis of G-protein Î²Î³ subunit complexes reveals a dynamic GÎ±-GÎ²Î³ subunit interface and multiple protein recognition modes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 639-644.	7.1	25
64	The Epac-Phospholipase CÎµ Pathway Regulates Endocannabinoid Signaling and Cocaine-Induced Disinhibition of Ventral Tegmental Area Dopamine Neurons. Journal of Neuroscience, 2017, 37, 3030-3044.	3.6	25
65	Epac1 and Epac2 are differentially involved in inflammatory and remodeling processes induced by cigarette smoke. FASEB Journal, 2014, 28, 4617-4628.	0.5	24
66	Activation of Phospholipase C Î² by GÎ²Î³ and GÎ±q Involves C-Terminal Rearrangement to Release Autoinhibition. Structure, 2020, 28, 810-819.e5.	3.3	23
67	Compartmentalized cyclic nucleotides have opposing effects on regulation of hypertrophic phospholipase CÎµ signaling in cardiac myocytes. Journal of Molecular and Cellular Cardiology, 2018, 121, 51-59.	1.9	21
68	WDR26 Functions as a Scaffolding Protein to Promote GÎ²Î³-mediated Phospholipase C Î²2 (PLCÎ²2) Activation in Leukocytes. Journal of Biological Chemistry, 2013, 288, 16715-16725.	3.4	20
69	Lysophosphatidic acid induces vasodilation mediated by LPA ₁ receptors, phospholipase C, and endothelial nitric oxide synthase. FASEB Journal, 2014, 28, 880-890.	0.5	20
70	PLCÎµ1 regulates SDF-1Î±â€"induced lymphocyte adhesion and migration to sites of inflammation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2693-2698.	7.1	20
71	Characterization of a Phospholipase C Î²2-Binding Site Near the Amino-terminal Coiled-coil of G Protein Î²Î³ Subunits. Journal of Biological Chemistry, 2001, 276, 11246-11251.	3.4	19
72	Purification and characterization of large and small subunits of ribulose 1,5-bisphosphate carboxylase expressed separately in Escherichia coli. Archives of Biochemistry and Biophysics, 1991, 286, 6-13.	3.0	18

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73	M3 Muscarinic Receptor Interaction with Phospholipase C Î²3 Determines Its Signaling Efficiency. Journal of Biological Chemistry, 2014, 289, 11206-11218.	3.4	17
74	HPLC Separation and Indirect Ultraviolet Detection of Phosphorylated Sugars. Plant Physiology, 1988, 86, 615-618.	4.8	16
75	Identification and Characterization of Unique Proline-rich Peptides Binding to the Mitochondrial Fission Protein hFis1. Journal of Biological Chemistry, 2010, 285, 620-630.	3.4	16
76	Thrombin Promotes Sustained Signaling and Inflammatory Gene Expression through the CDC25 and Ras-associating Domains of Phospholipase CÎµ. Journal of Biological Chemistry, 2015, 290, 26776-26783.	3.4	16
77	Regulation of Phosphatidylinositol-specific Phospholipase C at the Nuclear Envelope in Cardiac Myocytes. Journal of Cardiovascular Pharmacology, 2015, 65, 203-210.	1.9	16
78	Evaluating Docking Methods for Prediction of Binding Affinities of Small Molecules to the G Protein<i>Î²Î³</i>Subunits. Journal of Chemical Information and Modeling, 2009, 49, 437-443.	5.4	13
79	Discovery of Small Molecules That Target the Phosphatidylinositol (3,4,5) Trisphosphate (PIP₃)-Dependent Rac Exchanger 1 (P-Rex1) PIP₃-Binding Site and Inhibit P-Rex1â€"Dependent Functions in Neutrophils. Molecular Pharmacology, 2020, 97, 226-236.	2.3	13
80	Inhibition of G Protein Î²Î³ Subunit Signaling Abrogates Nephritis in Lupusâ€Prone Mice. Arthritis and Rheumatology, 2016, 68, 2244-2256.	5.6	11
81	Activated heterotrimeric G protein Î±i subunits inhibit Rap-dependent cell adhesion and promote cell migration. Journal of Biological Chemistry, 2018, 293, 1570-1578.	3.4	10
82	Hypertension induces glomerulosclerosis in phospholipase C-Îµ1 deficiency. American Journal of Physiology - Renal Physiology, 2020, 318, F1177-F1187.	2.7	9
83	Discovery of Ligands for Î²Î³ Subunits from Phage-Displayed Peptide Libraries. Methods in Enzymology, 2002, 344, 557-576.	1.0	7
84	Analysis and Pharmacological Targeting of Phospholipase C Î² Interactions with G Proteins. Methods in Enzymology, 2007, 434, 29-48.	1.0	7
85	Uveal melanomaâ€"associated mutations in PLCÎ²4 are constitutively activating and promote melanocyte proliferation and tumorigenesis. Science Signaling, 2021, 14, eabj4243.	3.6	7
86	Purification of Phospholipase C Î² and Phospholipase C Îµ from Sf9 Cells. , 2004, 237, 55-64.		6
87	A network of GÎ± _i signaling partners is revealed by proximity labeling proteomics analysis and includes PDZ-RhoGEF. Science Signaling, 2022, 15, eabi9869.	3.6	6
88	Fingerprinting G proteinâ€"coupled receptor signaling. Science Signaling, 2015, 8, fs20.	3.6	5
89	Phospholipase CÎµ Modulates Rap1 Activity and the Endothelial Barrier. PLoS ONE, 2016, 11, e0162338.	2.5	4
90	Î²-arrestin mediates communication between plasma membrane and intracellular GPCRs to regulate signaling. Communications Biology, 2020, 3, 789.	4.4	4

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91	A naturally occurring membrane-anchored GÎ±s variant, XLÎ±s, activates phospholipase CÎ²4. Journal of Biological Chemistry, 2022, 298, 102134.	3.4	3
92	An Internal Pool of Î²â€Adrenergic Receptors Activates PLCâ€mediated PI4P Hydrolysis in Cardiac Myocytes. FASEB Journal, 2018, 32, 686.8.	0.5	1
93	Identification of PDZâ€RhoGEF (PRG) as a Novel GÎ± i Target. FASEB Journal, 2021, 35, .	0.5	0
94	Golgiâ€resident Î²1â€adrenergic Receptor Signaling to Cardiac Hypertrophy in Cardiac Myocytes in Vitro and in Failing Hearts in Vivo. FASEB Journal, 2021, 35, .	0.5	0
95	Signaling Specificity of the GÎ± _i G Protein Subfamily8.5.5. FASEB Journal, 2021, 35, .	0.5	0
96	GPCR Independent Signaling by AGS8 Protein Through Formation of Quaternary Complex with GÎ²Î³, GÎ± and PLCÎ²2. FASEB Journal, 2006, 20, A257.	0.5	0
97	PLCÎµ Selectively Transduces Thrombin Versus LPA Signals to Astrocyte Proliferation Through Rap1 and Rho. FASEB Journal, 2008, 22, 805.11.	0.5	0
98	Analysis of direct binding of small molecules to G protein Î²Î³ subunits: biophysical analysis and binding site mapping. FASEB Journal, 2008, 22, 907.3.	0.5	0
99	Redox Regulation of G protein Î²Î³ Subunits. FASEB Journal, 2008, 22, 908.12.	0.5	0
100	Biophysical characterization of GÎ²Î³ â€œhot spotâ€•binding small molecules: explaining GÎ²Î³ â€œhot spotâ€•binding effector selectivity. FASEB Journal, 2009, 23, 583.3.	0.5	0
101	Phospholipase CÎµ(PLCÎµ)â€mediated activation of classical transient receptor potential 6 (TRPC6) increases barrier function of glomerular podocytes. FASEB Journal, 2009, 23, 804.12.	0.5	0
102	Regulation of the G protein Î²Î³ subunits through the covalent modification of GÎ². FASEB Journal, 2009, 23, 583.4.	0.5	0
103	Two Distinct Sites on GÎ²Î³ are Required for Binding to the Nâ€Terminus Versus the Activation Site on Adenylyl Cyclase. FASEB Journal, 2011, 25, .	0.5	0
104	Phospholipase C Îµ Regulates Multiple Agonistsâ€Induced Cardiomyocyte Hypertrophy in Neonatal Rat Ventricular Myocytes By Binding To mAKAP (Muscle Aâ€Kinase Anchoring Protein) And Generating Local IP3â€Dependent Nuclear Calcium Release. FASEB Journal, 2011, 25, 1012.1.	0.5	0
105	Direct Physical Scaffolding of Muscarinic M3 Receptor Signal Transduction Pathways. FASEB Journal, 2012, 26, 663.5.	0.5	0
106	Epac2 and PLC Îµ contribute to the inflammatory response to cigarette smoke in vivo. FASEB Journal, 2013, 27, 1107.7.	0.5	0
107	Characterization of Small Molecule GÎ²Î³ Inhibitors in the Context of Inflammation. FASEB Journal, 2015, 29, 618.4.	0.5	0
108	PI4P Hydrolysis Represents a General Mechanism for DAG Generation and PKC/PKD Activation. FASEB Journal, 2015, 29, 618.6.	0.5	0

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109	Biasing Î¼ Opioid Receptors with G Protein Inhibitors to Improve Opioid Analgesics. FASEB Journal, 2018, 32, 689.4.	0.5	0
110	Phospholipase CÉ› Regulation of Cardiac Fibroblasts. FASEB Journal, 2019, 33, 809.4.	0.5	0
111	The physiological hypertrophic agonist, norepinephrine, is able to induce PLCâ€mediated PI4P hydrolysis in cardiac myocytes via a pool of internal Î²â€adrenergic receptors. FASEB Journal, 2019, 33, 810.2.	0.5	0
112	b 1 â€Adrenergic Receptors in the Golgi Apparatus are Activated by Cell Permeable Agonists and Stimulate PLCâ€mediated PI4P Hydrolysis in Cardiac Myocytes. FASEB Journal, 2019, 33, .	0.5	0
113	Identifying Novel Signaling Mechanisms Downstream of G _q â€Coupled Receptors. FASEB Journal, 2022, 36, .	0.5	0