Viacheslav O Nikolaev

List of Publications by Year
in descending order

110 papers	6,733 citations	70961 41 h-index	66788 78 g-index
113 all docs	113 docs citations	113 times ranked	7245 citing authors

#	Article	IF	Citations
1	Novel Single Chain cAMP Sensors for Receptor-induced Signal Propagation. Journal of Biological Chemistry, 2004, 279, 37215-37218.	1.6	630
2	Î² ₂ -Adrenergic Receptor Redistribution in Heart Failure Changes cAMP Compartmentation. Science, 2010, 327, 1653-1657.	6.0	505
3	Persistent cAMP-Signals Triggered by Internalized G-Proteinâ€"Coupled Receptors. PLoS Biology, 2009, 7, e1000172.	2.6	471
4	Cyclic AMP Imaging in Adult Cardiac Myocytes Reveals Far-Reaching Î² 1 -Adrenergic but Locally Confined Î² 2 -Adrenergic Receptorâ€"Mediated Signaling. Circulation Research, 2006, 99, 1084-1091.	2.0	321
5	Widespread Receptivity to Neuropeptide PDF throughout the Neuronal Circadian Clock Network of Drosophila Revealed by Real-Time Cyclic AMP Imaging. Neuron, 2008, 58, 223-237.	3.8	295
6	Externalized histone H4 orchestrates chronic inflammation by inducing lytic cell death. Nature, 2019, 569, 236-240.	13.7	268
7	FRET measurements of intracellular cAMP concentrations and cAMP analog permeability in intact cells. Nature Protocols, 2011, 6, 427-438.	5.5	191
8	Fluorescent sensors for rapid monitoring of intracellular cGMP. Nature Methods, 2006, 3, 23-25.	9.0	175
9	Spatiotemporal Dynamics of Î²-Adrenergic cAMP Signals and L-Type Ca ²⁺ Channel Regulation in Adult Rat Ventricular Myocytes. Circulation Research, 2008, 102, 1091-1100.	2.0	143
10	Intercellular signaling via cyclic GMP diffusion through gap junctions restarts meiosis in mouse ovarian follicles. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5527-5532.	3.3	134
11	Popeye domain containing proteins are essential for stress-mediated modulation of cardiac pacemaking in mice. Journal of Clinical Investigation, 2012, 122, 1119-1130.	3.9	129
12	Enhanced Expression of Î²3-Adrenoceptors in Cardiac Myocytes Attenuates Neurohormone-Induced Hypertrophic Remodeling Through Nitric Oxide Synthase. Circulation, 2014, 129, 451-462.	1.6	125
13	cGMP-Elevating Compounds and Ischemic Conditioning Provide Cardioprotection Against Ischemia and Reperfusion Injury via Cardiomyocyte-Specific BK Channels. Circulation, 2017, 136, 2337-2355.	1.6	124
14	Catecholamine-Dependent Î²-Adrenergic Signaling in a Pluripotent Stem Cell ModelÂof Takotsubo Cardiomyopathy. Journal of the American College of Cardiology, 2017, 70, 975-991.	1.2	124
15	Real-time Monitoring of the PDE2 Activity of Live Cells. Journal of Biological Chemistry, 2005, 280, 1716-1719.	1.6	122
16	Axial tubule junctions control rapid calcium signaling in atria. Journal of Clinical Investigation, 2016, 126, 3999-4015.	3.9	118
17	Phosphodiesterase-2 Is Up-Regulated in Human Failing Hearts and Blunts Î²-Adrenergic Responses in Cardiomyocytes. Journal of the American College of Cardiology, 2013, 62, 1596-1606.	1.2	115
18	In vivo model with targeted cAMP biosensor reveals changes in receptorâ€"microdomain communication in cardiac disease. Nature Communications, 2015, 6, 6965.	5.8	110

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19	Caveolin-3 regulates compartmentation of cardiomyocyte beta2-adrenergic receptor-mediated cAMP signaling. Journal of Molecular and Cellular Cardiology, 2014, 67, 38-48.	0.9	103
20	Plasticity of Surface Structures and Î² ₂ -Adrenergic Receptor Localization in Failing Ventricular Cardiomyocytes During Recovery From Heart Failure. Circulation: Heart Failure, 2012, 5, 357-365.	1.6	102
21	Microdomain-Specific Modulation of L-Type Calcium Channels Leads to Triggered Ventricular Arrhythmia in Heart Failure. Circulation Research, 2016, 119, 944-955.	2.0	101
22	Molecular Basis of Partial Agonism at the Neurotransmitter Î±2A-Adrenergic Receptor and Gi-protein Heterotrimer. Journal of Biological Chemistry, 2006, 281, 24506-24511.	1.6	97
23	Monitoring of cAMP Synthesis and Degradation in Living Cells. Physiology, 2006, 21, 86-92.	1.6	89
24	Microdomain Switch of cGMP-Regulated Phosphodiesterases Leads to ANP-Induced Augmentation of Î²-Adrenoceptor-Stimulated Contractility in Early Cardiac Hypertrophy. Circulation Research, 2015, 116, 1304-1311.	2.0	88
25	Endothelial C-Type Natriuretic Peptide Acts on Pericytes to Regulate Microcirculatory Flow and Blood Pressure. Circulation, 2018, 138, 494-508.	1.6	86
26	Cytoplasmic cAMP concentrations in intact cardiac myocytes. American Journal of Physiology - Cell Physiology, 2008, 295, C414-C422.	2.1	83
27	Phosphodiesterases as therapeutic targets for respiratory diseases. , 2019, 197, 225-242.		81
28	Disruption of cardiac cholinergic neurons enhances susceptibility to ventricular arrhythmias. Nature Communications, 2017, 8, 14155.	5.8	77
29	Role of Membrane Microdomains in Compartmentation of cAMP Signaling. PLoS ONE, 2014, 9, e95835.	1.1	75
30	Phosphoinositide 3-Kinase Î³ Protects Against Catecholamine-Induced Ventricular Arrhythmia Through Protein Kinase Aâ€“Mediated Regulation of Distinct Phosphodiesterases. Circulation, 2012, 126, 2073-2083.	1.6	74
31	Biophysical Techniques for Detection of cAMP and cGMP in Living Cells. International Journal of Molecular Sciences, 2013, 14, 8025-8046.	1.8	71
32	Transgenic Mice for Real-Time Visualization of cGMP in Intact Adult Cardiomyocytes. Circulation Research, 2014, 114, 1235-1245.	2.0	71
33	cAMP microdomains and L-type Ca2+channel regulation in guinea-pig ventricular myocytes. Journal of Physiology, 2007, 580, 765-776.	1.3	64
34	Scanning ion conductance microscopy: a convergent high-resolution technology for multi-parametric analysis of living cardiovascular cells. Journal of the Royal Society Interface, 2011, 8, 913-925.	1.5	61
35	Monitoring receptor signaling by intramolecular FRET. Current Opinion in Pharmacology, 2007, 7, 547-553.	1.7	54
36	Endothelial Actions of ANP Enhance Myocardial Inflammatory Infiltration in the Early Phase After Acute Infarction. Circulation Research, 2016, 119, 237-248.	2.0	53

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37	T-tubule remodelling disturbs localized Î²2-adrenergic signalling in rat ventricular myocytes during the progression of heart failure. Cardiovascular Research, 2017, 113, 770-782.	1.8	53
38	Distinct submembrane localisation compartmentalises cardiac NPR1 and NPR2 signalling to cGMP. Nature Communications, 2018, 9, 2446.	5.8	52
39	Cardiomyocyte Membrane Structure and cAMP Compartmentation Produce Anatomical Variation in Î²2AR-cAMP Responsiveness in Murine Hearts. Cell Reports, 2018, 23, 459-469.	2.9	51
40	A cardiac pathway of cyclic GMP-independent signaling of guanylyl cyclase A, the receptor for atrial natriuretic peptide. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18500-18505.	3.3	48
41	Real-time monitoring of phosphodiesterase inhibition in intact cells. Cellular Signalling, 2008, 20, 1423-1431.	1.7	47
42	Tubulin polymerization disrupts cardiac Î²-adrenergic regulation of late INa. Cardiovascular Research, 2014, 103, 168-177.	1.8	45
43	Atrial Natriuretic Peptide Locally Counteracts the Deleterious Effects of Cardiomyocyte Mineralocorticoid Receptor Activation. Circulation: Heart Failure, 2014, 7, 814-821.	1.6	42
44	Cyclic Nucleotide Control of Microtubule Dynamics for Axon Guidance. Journal of Neuroscience, 2016, 36, 5636-5649.	1.7	42
45	Redox Imaging Using Cardiac Myocyte-Specific Transgenic Biosensor Mice. Circulation Research, 2016, 119, 1004-1016.	2.0	38
46	In vivo genetic dissection of O ₂ -evoked cGMP dynamics in a <i>Caenorhabditis elegans</i> gas sensor. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3301-10.	3.3	37
47	Cigarette smoke upâ€regulates <scp>PDE3</scp> and <scp>PDE4</scp> to decrease <scp>cAMP</scp> in airway cells. British Journal of Pharmacology, 2018, 175, 2988-3006.	2.7	31
48	Heart failure leads to altered Î²2-adrenoceptor/cyclic adenosine monophosphate dynamics in the sarcolemmal phospholemman/Na,K ATPase microdomain. Cardiovascular Research, 2019, 115, 546-555.	1.8	31
49	cAMP Imaging at Ryanodine Receptors Reveals Î² ₂ -Adrenoceptor Driven Arrhythmias. Circulation Research, 2021, 129, 81-94.	2.0	28
50	Î²3-Adrenoceptor redistribution impairs NO/cGMP/PDE2 signalling in failing cardiomyocytes. ELife, 2020, 9, .	2.8	28
51	Imaging of PDE2- and PDE3-Mediated cGMP-to-cAMP Cross-Talk in Cardiomyocytes. Journal of Cardiovascular Development and Disease, 2018, 5, 4.	0.8	27
52	AKAP18Î´ Anchors and Regulates CaMKII Activity at Phospholamban-SERCA2 and RYR. Circulation Research, 2022, 130, 27-44.	2.0	27
53	Skeletal muscle derived Musclin protects the heart during pathological overload. Nature Communications, 2022, 13, 149.	5.8	27
54	Live Cell Monitoring of Î¼-Opioid Receptor-mediated G-protein Activation Reveals Strong Biological Activity of Close Morphine Biosynthetic Precursors. Journal of Biological Chemistry, 2007, 282, 27126-27132.	1.6	25

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55	Imaging alterations of cardiomyocyte cAMP microdomains in disease. Frontiers in Pharmacology, 2015, 6, 172.	1.6	25
56	Protein kinase A activation by the anti-cancer drugs ABT-737 and thymoquinone is caspase-3-dependent and correlates with platelet inhibition and apoptosis. Cell Death and Disease, 2017, 8, e2898-e2898.	2.7	23
57	Oxidant sensor in the cGMP-binding pocket of PKGIÎ± regulates nitroxyl-mediated kinase activity. Scientific Reports, 2017, 7, 9938.	1.6	22
58	FRET Microscopy for Real-time Monitoring of Signaling Events in Live Cells Using Unimolecular Biosensors. Journal of Visualized Experiments, 2012, , e4081.	0.2	21
59	cGMP Signaling in the Cardiovascular Systemâ€"The Role of Compartmentation and Its Live Cell Imaging. International Journal of Molecular Sciences, 2018, 19, 801.	1.8	20
60	Novel Receptor-Derived Cyclopeptides to Treat Heart Failure Caused by Anti-Î²1-Adrenoceptor Antibodies in a Human-Analogous Rat Model. PLoS ONE, 2015, 10, e0117589.	1.1	20
61	Glucose stimulates somatostatin secretion in pancreatic Î´-cells by cAMP-dependent intracellular Ca2+ release. Journal of General Physiology, 2019, 151, 1094-1115.	0.9	19
62	Novel Techniques for Real-Time Monitoring of cGMP in Living Cells. Handbook of Experimental Pharmacology, 2009, , 229-243.	0.9	19
63	Adenine nucleotides as paracrine mediators and intracellular second messengers in immunity and inflammation. Biochemical Society Transactions, 2019, 47, 329-337.	1.6	17
64	Cyclic nucleotide imaging and cardiovascular disease. , 2017, 175, 107-115.		16
65	A-Kinase Anchoring Proteins Diminish TGF-Î²1/Cigarette Smoke-Induced Epithelial-To-Mesenchymal Transition. Cells, 2020, 9, 356.	1.8	16
66	Sildenafil Does Not Prevent Heart Hypertrophy and Fibrosis Induced by Cardiomyocyte Angiotensin II Type 1 Receptor Signaling. Journal of Pharmacology and Experimental Therapeutics, 2015, 354, 406-416.	1.3	14
67	Follicle-stimulating hormone and luteinizing hormone increase Ca2+ in the granulosa cells of mouse ovarian folliclesâ€. Biology of Reproduction, 2019, 101, 433-444.	1.2	14
68	P2X7-mediated ATP secretion is accompanied by depletion of cytosolic ATP. Purinergic Signalling, 2019, 15, 155-166.	1.1	13
69	CNP regulates cardiac contractility and increases cGMP near both SERCA and TnI: difference from BNP visualized by targeted cGMP biosensors. Cardiovascular Research, 2022, 118, 1506-1519.	1.8	13
70	Interactions of Calcium Fluctuations during Cardiomyocyte Contraction with Real-Time cAMP Dynamics Detected by FRET. PLoS ONE, 2016, 11, e0167974.	1.1	13
71	Cigarette smoke exposure alters phosphodiesterases in human structural lung cells. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2020, 318, L59-L64.	1.3	12
72	Atropine augments cardiac contractility by inhibiting cAMP-specific phosphodiesterase type 4. Scientific Reports, 2017, 7, 15222.	1.6	11

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73	Cardiac cGMP Signaling in Health and Disease. Journal of Cardiovascular Pharmacology, 2020, 75, 399-409.	0.8	11
74	Impact of phosphodiesterases PDE3 and PDE4 on 5-hydroxytryptamine receptor4-mediated increase of cAMP in human atrial fibrillation. Naunyn-Schmiedeberg's Archives of Pharmacology, 2021, 394, 291-298.	1.4	11
75	Upregulation of Phosphodiesterase 2A Augments T Cell Activation by Changing cGMP/cAMP Cross-Talk. Frontiers in Pharmacology, 2021, 12, 748798.	1.6	11
76	Phosphodiesterase 3A expression and activity in the murine vasculature is influenced by NO-sensitive guanylyl cyclase. Pflugers Archiv European Journal of Physiology, 2018, 470, 693-702.	1.3	10
77	Visualizing Cyclic Adenosine Monophosphate in Cardiac Microdomains Involved in Ion Homeostasis. Frontiers in Physiology, 2019, 10, 1406.	1.3	10
78	Heart-Microcirculation Connection. Hypertension, 2020, 76, 1637-1648.	1.3	10
79	Rise of cGMP by partial phosphodiesterase-3A degradation enhances cardioprotection during hypoxia. Redox Biology, 2021, 48, 102179.	3.9	10
80	FRET Microscopy for Real-Time Visualization of Second Messengers in Living Cells. Methods in Molecular Biology, 2017, 1563, 85-90.	0.4	9
81	Calcineurin AÎ²â€“Specific Anchoring Confers Isoform-Specific Compartmentation and Function in Pathological Cardiac Myocyte Hypertrophy. Circulation, 2020, 142, 948-962.	1.6	9
82	Multifaceted remodelling of cAMP microdomains driven by different aetiologies of heart failure. FEBS Journal, 2021, 288, 6603-6622.	2.2	9
83	Mapping genetic changes in the cAMP-signaling cascade in human atria. Journal of Molecular and Cellular Cardiology, 2021, 155, 10-20.	0.9	9
84	cGMP signalling in cardiomyocyte microdomains. Biochemical Society Transactions, 2019, 47, 1327-1339.	1.6	9
85	A Software Tool for High-Throughput Real-Time Measurement of Intensity-Based Ratio-Metric FRET. Cells, 2019, 8, 1541.	1.8	8
86	Unmasking features of the autoâ€epitope essential for Î²₁â€adrenoceptor activation by autoantibodies in chronic heart failure. ESC Heart Failure, 2020, 7, 1830-1841.	1.4	8
87	Real-time monitoring of cAMP in brown adipocytes reveals differential compartmentation of Î²1 and Î²3-adrenoceptor signalling. Molecular Metabolism, 2020, 37, 100986.	3.0	7
88	Advances and Techniques to Measure cGMP in Intact Cardiomyocytes. Methods in Molecular Biology, 2013, 1020, 121-129.	0.4	6
89	Divergent off-target effects of RSK N-terminal and C-terminal kinase inhibitors in cardiac myocytes. Cellular Signalling, 2019, 63, 109362.	1.7	6
90	Monitoring Cannabinoid CB2 -Receptor Mediated cAMP Dynamics by FRET-Based Live Cell Imaging. International Journal of Molecular Sciences, 2020, 21, 7880.	1.8	6

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91	A junctional cAMP compartment regulates rapid Ca2+ signaling in atrial myocytes. Journal of Molecular and Cellular Cardiology, 2022, 165, 141-157.	0.9	6
92	Optogenetic Monitoring of the Glutathione Redox State in Engineered Human Myocardium. Frontiers in Physiology, 2019, 10, 272.	1.3	5
93	Polycystic ovarian syndrome increases prevalence of concentric hypertrophy in normotensive obese women. PLoS ONE, 2022, 17, e0263312.	1.1	5
94	MANP Activation Of The cGMP Inhibits Aldosterone Via PDE2 And CYP11B2 In H295R Cells And In Mice. Hypertension, 2022, 79, 1702-1712.	1.3	5
95	Impact of Intracardiac Neurons on Cardiac Electrophysiology and Arrhythmogenesis in an Ex Vivo Langendorff System. Journal of Visualized Experiments, 2018, , .	0.2	4
96	Receptor-independent modulation of cAMP-dependent protein kinase and protein phosphatase signaling in cardiac myocytes by oxidizing agents. Journal of Biological Chemistry, 2020, 295, 15342-15365.	1.6	4
97	Regulation of basal and norepinephrine-induced cAMP and ICa in hiPSC-cardiomyocytes: Effects of culture conditions and comparison to adult human atrial cardiomyocytes. Cellular Signalling, 2021, 82, 109970.	1.7	4
98	NET Release of Long-Term Surviving Neutrophils. Frontiers in Immunology, 2022, 13, 815412.	2.2	4
99	Understanding the Role of SERCA2a Microdomain Remodeling in Heart Failure Induced by Obesity and Type 2 Diabetes. Journal of Cardiovascular Development and Disease, 2022, 9, 163.	0.8	4
100	Adenylyl cyclases 5 and 6 underlie PIP3-dependent regulation. FASEB Journal, 2015, 29, 3458-3471.	0.2	3
101	Cardiac Hypertrophy Changes Compartmentation of cAMP in Non-Raft Membrane Microdomains. Cells, 2021, 10, 535.	1.8	3
102	Hypertrophic signaling compensates for contractile and metabolic consequences of DNA methyltransferase 3A loss in human cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2021, 154, 115-123.	0.9	3
103	Generation of Transgenic Mice Expressing FRET Biosensors. Methods in Molecular Biology, 2015, 1294, 117-129.	0.4	2
104	Constitutive inhibitory G protein activity upon adenylyl cyclase-dependent cardiac contractility is limited to adenylyl cyclase type 6. PLoS ONE, 2019, 14, e0218110.	1.1	2
105	Membrane-Permeable Octanoyloxybenzyl-Masked cNMPs As Novel Tools for Non-Invasive Cell Assays. Molecules, 2018, 23, 2960.	1.7	1
106	Establishing a sensitive fluorescence-based quantification method for cyclic nucleotides. BMC Biotechnology, 2020, 20, 47.	1.7	1
107	Using FRET-Based Fluorescent Sensors to Monitor Cytosolic and Membrane-Proximal Extracellular ATP Levels. Methods in Molecular Biology, 2020, 2041, 223-231.	0.4	1
108	Enhanced Heart Failure in Redoxâ€Dead Cys17Ser PKARIÎ± Knockâ€In Mice. Journal of the American Heart Association, 2021, 10, e021985.	1.6	0

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109	GPCR signaling is highly compartmentalized in human cardiomyocytes and severely remodeled in atrial fibrillation. Journal of General Physiology, 2022, 154, .	0.9	0
110	Generation of Transgenic Mice Expressing Cytosolic and Targeted FRET Biosensors for cAMP and cGMP. Methods in Molecular Biology, 2022, 2483, 241-254.	0.4	0