Vsevolod Belousov

List of Publications by Year in descending order

90	6,810	109137 35	62479 80
papers	citations	h-index	g-index

95	95	95	7600
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Genetically encoded fluorescent indicator for intracellular hydrogen peroxide. Nature Methods, 2006, 3, 281-286.	9.0	1,096
2	Unraveling the Biological Roles of Reactive Oxygen Species. Cell Metabolism, 2011, 13, 361-366.	7.2	661
3	Defining roles of specific reactive oxygen species (ROS) in cell biology and physiology. Nature Reviews Molecular Cell Biology, 2022, 23, 499-515.	16.1	469
4	Guidelines for measuring reactive oxygen species and oxidative damage in cells and in vivo. Nature Metabolism, 2022, 4, 651-662.	5.1	356
5	Kindling fluorescent proteins for precise in vivo photolabeling. Nature Biotechnology, 2003, 21, 191-194.	9.4	304
6	European contribution to the study of ROS: A summary of the findings and prospects for the future from the COST action BM1203 (EU-ROS). Redox Biology, 2017, 13, 94-162.	3.9	242
7	HyPer-3: A Genetically Encoded H₂O₂ Probe with Improved Performance for Ratiometric and Fluorescence Lifetime Imaging. ACS Chemical Biology, 2013, 8, 535-542.	1.6	224
8	Red fluorescent genetically encoded indicator for intracellular hydrogen peroxide. Nature Communications, 2014, 5, 5222.	5.8	207
9	Ultrasensitive Genetically Encoded Indicator for Hydrogen Peroxide Identifies Roles for the Oxidant in Cell Migration and Mitochondrial Function. Cell Metabolism, 2020, 31, 642-653.e6.	7.2	202
10	Hydrogen Peroxide Probes Directed to Different Cellular Compartments. PLoS ONE, 2011, 6, e14564.	1.1	177
11	Green fluorescent proteins are light-induced electron donors. Nature Chemical Biology, 2009, 5, 459-461.	3.9	176
12	Genetically encoded fluorescent redox sensors. Biochimica Et Biophysica Acta - General Subjects, 2014, 1840, 745-756.	1.1	165
13	A genetically encoded sensor for H2O2 with expanded dynamic range. Bioorganic and Medicinal Chemistry, 2011, 19, 1079-1084.	1.4	160
14	Does Cellular Hydrogen Peroxide Diffuse or Act Locally?. Antioxidants and Redox Signaling, 2011, 14, 1-7.	2.5	137
15	The â€˜mitoflashâ€™ probe cpYFP does not respond to superoxide. Nature, 2014, 514, E12-E14.	13.7	109
16	HyPer Family Probes: State of the Art. Antioxidants and Redox Signaling, 2016, 24, 731-751.	2.5	103
17	Novel uses of fluorescent proteins. Current Opinion in Chemical Biology, 2015, 27, 1-9.	2.8	96
18	Genetically encoded fluorescent indicator for imaging NAD+/NADH ratio changes in different cellular compartments. Biochimica Et Biophysica Acta - General Subjects, 2014, 1840, 951-957.	1.1	94

#	Article	IF	Citations
19	Intracellular pH imaging in cancer cells in vitro and tumors in vivo using the new genetically encoded sensor SypHer2. Biochimica Et Biophysica Acta - General Subjects, 2015, 1850, 1905-1911.	1.1	92
20	LINC00116 codes for a mitochondrial peptide linking respiration and lipid metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4940-4945.	3.3	84
21	Circularly Permuted Fluorescent Protein-Based Indicators: History, Principles, and Classification. International Journal of Molecular Sciences, 2019, 20, 4200.	1.8	83
22	A novel family of fluorescent hypoxia sensors reveal strong heterogeneity in tumor hypoxia at the cellular level. EMBO Journal, 2016, 35, 102-113.	3.5	80
23	Chemogenetic generation of hydrogen peroxide in the heart induces severe cardiac dysfunction. Nature Communications, 2018, 9, 4044.	5.8	80
24	Fluorescent ratiometric pH indicator SypHer2: Applications in neuroscience and regenerative biology. Biochimica Et Biophysica Acta - General Subjects, 2015, 1850, 2318-2328.	1.1	72
25	How Much H₂O₂ Is Produced by Recombinant D-Amino Acid Oxidase in Mammalian Cells?. Antioxidants and Redox Signaling, 2014, 20, 1039-1044.	2.5	62
26	New tools for redox biology: From imaging to manipulation. Free Radical Biology and Medicine, 2017, 109, 167-188.	1.3	58
27	Thermogenetic neurostimulation with single-cell resolution. Nature Communications, 2017, 8, 15362.	5.8	55
28	SypHer3s: a genetically encoded fluorescent ratiometric probe with enhanced brightness and an improved dynamic range. Chemical Communications, 2018, 54, 2898-2901.	2.2	52
29	Reactive oxygen and nitrogen species: Friends or foes?. Biochemistry (Moscow), 2005, 70, 215-221.	0.7	51
30	In VivoImaging of Hydrogen Peroxide with HyPer Probes. Antioxidants and Redox Signaling, 2018, 29, 569-584.	2.5	50
31	Nox4 regulates InsP ₃ receptorâ€dependent Ca ²⁺ release into mitochondria to promote cell survival. EMBO Journal, 2020, 39, e103530.	3.5	49
32	Fiber-optic control and thermometry of single-cell thermosensation logic. Scientific Reports, 2015, 5, 15737.	1.6	45
33	Structural snapshots of OxyR reveal the peroxidatic mechanism of H ₂ O ₂ sensing. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11623-E11632.	3.3	42
34	Which Antioxidant System Shapes Intracellular H₂O₂ Gradients?. Antioxidants and Redox Signaling, 2019, 31, 664-670.	2.5	42
35	Visualization of Intracellular Hydrogen Peroxide with HyPer, a Genetically Encoded Fluorescent Probe. Methods in Enzymology, 2013, 526, 45-59.	0.4	40
36	Spatial and temporal control of mitochondrial H ₂ O ₂ release in intact human cells. EMBO Journal, 2022, 41, e109169.	3.5	39

#	Article	IF	Citations
37	Genetically encoded probes for NAD+/NADH monitoring. Free Radical Biology and Medicine, 2016, 100, 32-42.	1.3	36
38	Live-Cell STED Microscopy with Genetically Encoded Biosensor. Nano Letters, 2015, 15, 2928-2932.	4.5	35
39	In Vivo Imaging with Genetically Encoded Redox Biosensors. International Journal of Molecular Sciences, 2020, 21, 8164.	1.8	33
40	Mild metabolic perturbations alter succinylation of mitochondrial proteins. Journal of Neuroscience Research, 2017, 95, 2244-2252.	1.3	32
41	Redox biosensors in a context of multiparameter imaging. Free Radical Biology and Medicine, 2018, 128, 23-39.	1.3	29
42	Fiber-optic electron-spin-resonance thermometry of single laser-activated neurons. Optics Letters, 2016, 41, 5563.	1.7	27
43	Imaging calcium and redox signals using genetically encoded fluorescent indicators. Cell Calcium, 2016, 60, 55-64.	1.1	27
44	Red fluorescent redox-sensitive biosensor Grx1-roCherry. Redox Biology, 2019, 21, 101071.	3.9	26
45	Hypoxia Onset in Mesenchymal Stem Cell Spheroids: Monitoring With Hypoxia Reporter Cells. Frontiers in Bioengineering and Biotechnology, 2021, 9, 611837.	2.0	26
46	A guide to genetically encoded tools for the study of H₂O₂. FEBS Journal, 2022, 289, 5382-5395.	2.2	26
47	Fast and Precise Protein Tracking Using Repeated Reversible Photoactivation. Traffic, 2006, 7, 1304-1310.	1.3	25
48	Slowly Reducible Genetically Encoded Green Fluorescent Indicator for In Vivo and Ex Vivo Visualization of Hydrogen Peroxide. International Journal of Molecular Sciences, 2019, 20, 3138.	1.8	24
49	Local Generation and Imaging of Hydrogen Peroxide in Living Cells. Current Protocols in Chemical Biology, 2017, 9, 117-127.	1.7	23
50	Microwave-induced thermogenetic activation of single cells. Applied Physics Letters, 2015, 106, .	1.5	22
51	O2 affects mitochondrial functionality ex vivo. Redox Biology, 2019, 22, 101152.	3.9	22
52	In vivo dynamics of acidosis and oxidative stress in the acute phase of an ischemic stroke in a rodent model. Redox Biology, 2021, 48, 102178.	3.9	22
53	Can We See PIP3 and Hydrogen Peroxide with a Single Probe?. Antioxidants and Redox Signaling, 2012, 17, 505-512.	2.5	20
54	Cell-specific three-photon-fluorescence brain imaging: neurons, astrocytes, and gliovascular interfaces. Optics Letters, 2020, 45, 836.	1.7	20

#	Article	IF	Citations
55	Recent advances in nucleotide analogue-based techniques for tracking dividing stem cells: An overview. Journal of Biological Chemistry, 2021, 297, 101345.	1.6	19
56	Twoâ€•and threeâ€photon absorption crossâ€section characterization for highâ€brightness, cellâ€specific multiphoton fluorescence brain imaging. Journal of Biophotonics, 2020, 13, e201900243.	1.1	18
57	H2O2 and Engrailed 2 paracrine activity synergize to shape the zebrafish optic tectum. Communications Biology, 2020, 3, 536.	2.0	18
58	The Mitochondria-to-Cytosol H2O2 Gradient Is Caused by Peroxiredoxin-Dependent Cytosolic Scavenging. Antioxidants, 2021, 10, 731.	2.2	18
59	Imaging H2O2 Microdomains in Receptor Tyrosine Kinases Signaling. Methods in Enzymology, 2013, 526, 175-187.	0.4	16
60	Live reporting for hypoxia: Hypoxia sensorâ€“modified mesenchymal stem cells as in vitro reporters. Biotechnology and Bioengineering, 2020, 117, 3265-3276.	1.7	16
61	A fiber opticâ€“nanophotonic approach to the detection of antibodies and viral particles of COVID-19. Nanophotonics, 2020, 10, 235-246.	2.9	15
62	A BK channelâ€“mediated feedback pathway links single-synapse activity with action potential sharpening in repetitive firing. Science Advances, 2018, 4, eaat1357.	4.7	14
63	Drug Screening with Genetically Encoded Fluorescent Sensors: Today and Tomorrow. International Journal of Molecular Sciences, 2021, 22, 148.	1.8	13
64	A reversible mitochondrial complex I thiol switch mediates hypoxic avoidance behavior in C. elegans. Nature Communications, 2022, 13, 2403.	5.8	13
65	Stain-free subcellular-resolution astrocyte imaging using third-harmonic generation. Optics Letters, 2019, 44, 3166.	1.7	11
66	Genetically Encoded Tools for Research of Cell Signaling and Metabolism under Brain Hypoxia. Antioxidants, 2020, 9, 516.	2.2	10
67	Hypocrates is a genetically encoded fluorescent biosensor for (pseudo)hypohalous acids and their derivatives. Nature Communications, 2022, 13, 171.	5.8	9
68	Single-beam multimodal nonlinear-optical imaging of structurally complex events in cell-cycle dynamics. JPhys Photonics, 2021, 3, 044001.	2.2	7
69	Fluorescence lifetime-based pH mapping of tumors inÂvivo using genetically encoded sensor SypHerRed. Biophysical Journal, 2022, 121, 1156-1165.	0.2	7
70	Live-Cell STED Imaging with the HyPer2 Biosensor. Methods in Molecular Biology, 2017, 1663, 21-28.	0.4	6
71	Thermogenetic stimulation of single neocortical pyramidal neurons transfected with TRPV1-L channels. Neuroscience Letters, 2018, 687, 153-157.	1.0	6
72	Nonlinearâ€optical stainâ€free stereoimaging of astrocytes and gliovascular interfaces. Journal of Biophotonics, 2019, 12, e201800432.	1.1	6

#	Article	IF	Citations
73	Threeâ€photonâ€resonanceâ€enhanced thirdâ€harmonic generation for labelâ€free deepâ€brain imaging: In search of a chemical contrast. Journal of Raman Spectroscopy, 2019, 50, 1296-1302.	1.2	6
74	Proteinaceous complexes from mitochondrial contact sites. Biochemistry (Moscow), 1999, 64, 390-8.	0.7	6
75	Visualization of Intracellular Hydrogen Peroxide with the Genetically Encoded Fluorescent Probe HyPer in NIH-3T3 Cells. Methods in Molecular Biology, 2019, 1982, 259-274.	0.4	5
76	Multimodal nonlinear-optical imaging of nucleoli. Optics Letters, 2021, 46, 3608.	1.7	5
77	Tracing of intracellular pH in cancer cells in response to Taxol treatment. Cell Cycle, 2021, 20, 1540-1551.	1.3	5
78	Enhancedâ€contrast twoâ€photon optogenetic <scp>pH</scp> sensing and <scp>pH</scp>â€resolved brain imaging. Journal of Biophotonics, 2021, 14, e202000301.	1.1	4
79	Singleâ€beam dualâ€color alternateâ€pathway twoâ€photon spectroscopy: Toward an optical toolbox for redox biology. Journal of Raman Spectroscopy, 2021, 52, 1552-1560.	1.2	4
80	Singleâ€beam optogenetic multimodal Ï‡ (3) / Ï‡ (5) nonlinear microscopy and brain imaging. Journal of Raman Spectroscopy, 2020, 51, 1942-1950.	1.2	3
81	Thermogenetics as a New Direction in Controlling the Activity of Neural Networks. Neuroscience and Behavioral Physiology, 2020, 50, 1018-1023.	0.2	3
82	Realâ€time fiberâ€optic recording of acuteâ€ischemicâ€stroke signatures. Journal of Biophotonics, 2022, 15, .	1.1	3
83	NADPH oxidase controls EGF-induced proliferation via an ERK1/2-independent mechanism. Biophysics (Russian Federation), 2010, 55, 959-965.	0.2	2
84	Light and corona: guided-wave readout for coronavirus spike proteinâ€“host-receptor binding. Optics Letters, 2020, 45, 5428.	1.7	2
85	The slow fade of cell fluorescence. Nature Photonics, 2012, 6, 641-643.	15.6	1
86	Physics behind laser thermogenetic neurostimulation. Journal of Applied Physics, 2019, 126, 233102.	1.1	1
87	Surgical treatment of patients with neurosurgical pathology combined with COVID-19. Russian Journal of Neurosurgery, 2021, 22, 83-92.	0.1	1
88	A genetically encoded biosensor roKate for monitoring the redox state of the glutathione pool. Bulletin of Russian State Medical University, 2019, , 86-92.	0.3	1
89	Nonlinear-Optical Label-Free Multimodal Imaging of Neurons, Astrocytes and Gliovascular Interfaces. , 2019, , .		0
90	How imaging transforms our understanding of oxidative stress. , 2020, , 87-96.		0