

Erich Gnaiger

List of Publications by Year in descending order

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87
papers

6,232
citations

76326

40
h-index

71685

76
g-index

104
all docs

104
docs citations

104
times ranked

8474
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Resolution Respirometry: OXPPOS Protocols for Human Cells and Permeabilized Fibers from Small Biopsies of Human Muscle. <i>Methods in Molecular Biology</i> , 2012, 810, 25-58.	0.9	779
2	Deficiency or inhibition of oxygen sensor Phd1 induces hypoxia tolerance by reprogramming basal metabolism. <i>Nature Genetics</i> , 2008, 40, 170-180.	21.4	433
3	Capacity of oxidative phosphorylation in human skeletal muscle. <i>International Journal of Biochemistry and Cell Biology</i> , 2009, 41, 1837-1845.	2.8	383
4	Control of mitochondrial and cellular respiration by oxygen. <i>Journal of Bioenergetics and Biomembranes</i> , 1995, 27, 583-596.	2.3	294
5	Iron-dependent changes in cellular energy metabolism: influence on citric acid cycle and oxidative phosphorylation. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1999, 1413, 99-107.	1.0	243
6	Bioenergetics at low oxygen: dependence of respiration and phosphorylation on oxygen and adenosine diphosphate supply. <i>Respiration Physiology</i> , 2001, 128, 277-297.	2.7	234
7	Senescence-associated changes in respiration and oxidative phosphorylation in primary human fibroblasts. <i>Biochemical Journal</i> , 2004, 380, 919-928.	3.7	214
8	High-Resolution Respirometry for Simultaneous Measurement of Oxygen and Hydrogen Peroxide Fluxes in Permeabilized Cells, Tissue Homogenate and Isolated Mitochondria. <i>Biomolecules</i> , 2015, 5, 1319-1338.	4.0	168
9	Anaerobic metabolism in aerobic mammalian cells: information from the ratio of calorimetric heat flux and respirometric oxygen flux. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1990, 1016, 328-332.	1.0	162
10	Metabolic basis to Sherpa altitude adaptation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 6382-6387.	7.1	162
11	Mitochondrial respiratory control and early defects of oxidative phosphorylation in the failing human heart. <i>International Journal of Biochemistry and Cell Biology</i> , 2011, 43, 1729-1738.	2.8	158
12	Mitochondrial defects and heterogeneous cytochrome release after cardiac cold ischemia and reperfusion. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004, 286, H1633-H1641.	3.2	145
13	Similar qualitative and quantitative changes of mitochondrial respiration following strength and endurance training in normoxia and hypoxia in sedentary humans. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2011, 301, R1078-R1087.	1.8	144
14	High-Resolution FluoRespirometry and OXPPOS Protocols for Human Cells, Permeabilized Fibers from Small Biopsies of Muscle, and Isolated Mitochondria. <i>Methods in Molecular Biology</i> , 2018, 1782, 31-70.	0.9	137
15	Muscle mitochondrial capacity exceeds maximal oxygen delivery in humans. <i>Mitochondrion</i> , 2011, 11, 303-307.	3.4	126
16	Evaluation of Mitochondrial Respiratory Function in Small Biopsies of Liver. <i>Analytical Biochemistry</i> , 2002, 305, 186-194.	2.4	117
17	Mitochondria in the Cold. , 2000, , 431-442.		114
18	Temporal increase of platelet mitochondrial respiration is negatively associated with clinical outcome in patients with sepsis. <i>Critical Care</i> , 2010, 14, R214.	5.8	111

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19	Oxygen Conformance of Cellular Respiration. <i>Advances in Experimental Medicine and Biology</i> , 2003, 543, 39-55.	1.6	106
20	Mitochondrial bioenergetic adaptations of breast cancer cells to aglycemia and hypoxia. <i>Journal of Bioenergetics and Biomembranes</i> , 2010, 42, 55-67.	2.3	104
21	Changes of mitochondrial respiration, mitochondrial content and cell size after induction of apoptosis in leukemia cells. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2003, 1642, 115-123.	4.1	101
22	Simultaneous High-Resolution Measurement of Mitochondrial Respiration and Hydrogen Peroxide Production. <i>Methods in Molecular Biology</i> , 2015, 1264, 245-261.	0.9	86
23	Remodeling pathway control of mitochondrial respiratory capacity by temperature in mouse heart: electron flow through the Q-junction in permeabilized fibers. <i>Scientific Reports</i> , 2017, 7, 2840.	3.3	82
24	Molecular structural diversity of mitochondrial cardiolipins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 4158-4163.	7.1	82
25	OXPPOS remodeling in high-grade prostate cancer involves mtDNA mutations and increased succinate oxidation. <i>Nature Communications</i> , 2020, 11, 1487.	12.8	78
26	Differences in mitochondrial function in homogenated samples from healthy and epileptic specific brain tissues revealed by high-resolution respirometry. <i>Mitochondrion</i> , 2015, 25, 104-112.	3.4	66
27	Cell Respiration Under Hypoxia: Facts and Artefacts in Mitochondrial Oxygen Kinetics. <i>Advances in Experimental Medicine and Biology</i> , 2010, 662, 7-25.	1.6	66
28	Title is missing!. <i>Molecular and Cellular Biochemistry</i> , 1997, 174, 71-78.	3.1	61
29	Adaptive remodeling of skeletal muscle energy metabolism in high-altitude hypoxia: Lessons from AltitudeOmics. <i>Journal of Biological Chemistry</i> , 2018, 293, 6659-6671.	3.4	57
30	Mitochondrial respiration in the low oxygen environment of the cell effect of ADP on oxygen kinetics. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1998, 1365, 249-254.	1.0	56
31	Use of Safranin for the Assessment of Mitochondrial Membrane Potential by High-Resolution Respirometry and Fluorometry. <i>Methods in Enzymology</i> , 2014, 542, 163-181.	1.0	53
32	Physical Fitness and Mitochondrial Respiratory Capacity in Horse Skeletal Muscle. <i>PLoS ONE</i> , 2012, 7, e34890.	2.5	50
33	Mitochondrial Gene Therapy Improves Respiration, Biogenesis, and Transcription in G11778A Leber's Hereditary Optic Neuropathy and T8993G Leigh's Syndrome Cells. <i>Human Gene Therapy</i> , 2012, 23, 647-657.	2.7	49
34	RESPIRATORY DEFECT AS AN EARLY EVENT IN PRESERVATION-REOXYGENATION INJURY OF ENDOTHELIAL CELLS1. <i>Transplantation</i> , 1997, 63, 136-142.	1.0	49
35	Mitochondrial function in human skeletal muscle following high-altitude exposure. <i>Experimental Physiology</i> , 2013, 98, 245-255.	2.0	48
36	Dietary iron loading negatively affects liver mitochondrial function. <i>Metallomics</i> , 2017, 9, 1634-1644.	2.4	47

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37	Preserved Coupling of Oxidative Phosphorylation But Decreased Mitochondrial Respiratory Capacity in IL-1 β -Treated Human Peritoneal Mesothelial Cells. <i>Cell Biochemistry and Biophysics</i> , 2006, 44, 179-186.	1.8	46
38	Endogenous Myoglobin in Breast Cancer Is Hypoxia-inducible by Alternative Transcription and Functions to Impair Mitochondrial Activity. <i>Journal of Biological Chemistry</i> , 2011, 286, 43417-43428.	3.4	43
39	Kinetic model of the inhibition of respiration by endogenous nitric oxide in intact cells. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2010, 1797, 557-565.	1.0	42
40	Thermal plasticity of skeletal muscle mitochondrial activity and whole animal respiration in a common intertidal triplefin fish, <i>Forsterygion lapillum</i> (Family: <i>Tripterygiidae</i>). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2014, 184, 991-1001.	1.5	42
41	From basic mechanisms to clinical applications in heart protection, new players in cardiovascular diseases and cardiac theranostics: meeting report from the third international symposium on "New frontiers in cardiovascular research". <i>Basic Research in Cardiology</i> , 2016, 111, 69.	5.9	41
42	Decreased affinity for oxygen of cytochrome-c oxidase in Leigh syndrome caused by SURF1 mutations. <i>American Journal of Physiology - Cell Physiology</i> , 2004, 287, C1384-C1388.	4.6	39
43	Oxidative phosphorylation and mitochondrial function differ between human prostate tissue and cultured cells. <i>FEBS Journal</i> , 2016, 283, 2181-2196.	4.7	38
44	The role of haemoglobin mass on VO ₂ max following normobaric "live high" train low™ in endurance-trained athletes. <i>British Journal of Sports Medicine</i> , 2012, 46, 822-827.	6.7	36
45	Mitochondrial coupling and capacity of oxidative phosphorylation in skeletal muscle of Inuit and Caucasians in the arctic winter. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2015, 25, 126-134.	2.9	33
46	The best approach: Homogenization or manual permeabilization of human skeletal muscle fibers for respirometry?. <i>Analytical Biochemistry</i> , 2014, 446, 64-68.	2.4	32
47	High fatty acid oxidation capacity and phosphorylation control despite elevated leak and reduced respiratory capacity in northern elephant seal muscle mitochondria. <i>Journal of Experimental Biology</i> , 2014, 217, 2947-55.	1.7	26
48	Amphotericin B Resistance in <i>Aspergillus terreus</i> Is Overpowered by Coapplication of Pro-oxidants. <i>Antioxidants and Redox Signaling</i> , 2015, 23, 1424-1438.	5.4	25
49	Physiological and Pathophysiological Responses to Ultramarathon Running in Non-elite Runners. <i>Frontiers in Physiology</i> , 2019, 10, 1300.	2.8	24
50	Biphasic oxygen kinetics of cellular respiration and linear oxygen dependence of antimycin A inhibited oxygen consumption. <i>Molecular Biology Reports</i> , 2002, 29, 83-87.	2.3	22
51	H ₂ O ₂ -mediated oxidative stress versus cold ischemia-reperfusion: mitochondrial respiratory defects in cultured human endothelial cells. <i>Transplantation</i> , 2002, 74, 1800-1803.	1.0	21
52	Peritoneal Inflammation in Pigs is Associated with Early Mitochondrial Dysfunction in Liver and Kidney. <i>Inflammation</i> , 2010, 33, 295-305.	3.8	21
53	Association of mitochondrial iron deficiency and dysfunction with idiopathic restless legs syndrome. <i>Movement Disorders</i> , 2019, 34, 114-123.	3.9	21
54	Mitochondrial respiration in highly aerobic canines in the non-raced state and after a 1600-km sled dog race. <i>PLoS ONE</i> , 2017, 12, e0174874.	2.5	20

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55	Differential Utilization of Dietary Fatty Acids in Benign and Malignant Cells of the Prostate. PLoS ONE, 2015, 10, e0135704.	2.5	19
56	Comparison of Mitochondrial Incubation Media for Measurement of Respiration and Hydrogen Peroxide Production. Methods in Molecular Biology, 2018, 1782, 137-155.	0.9	17
57	Mitochondrial function in glucocorticoid triggered T-ALL cells with transgenic bcl-2 expression. Molecular Biology Reports, 2002, 29, 97-101.	2.3	16
58	Cytochrome redox states and respiratory control in mouse and beef heart mitochondria at steady-state levels of hypoxia. Journal of Applied Physiology, 2015, 119, 1210-1218.	2.5	16
59	Succinate Accumulation Is Associated with a Shift of Mitochondrial Respiratory Control and HIF-1 α Upregulation in PTEN Negative Prostate Cancer Cells. International Journal of Molecular Sciences, 2018, 19, 2129.	4.1	15
60	MITOCHONDRIAL ISCHEMIA-REPERFUSION INJURY OF THE TRANSPLANTED RAT HEART. Shock, 2008, 30, 365-371.	2.1	14
61	Fatty acyl availability modulates cardiolipin composition and alters mitochondrial function in HeLa cells. Journal of Lipid Research, 2021, 62, 100111.	4.2	14
62	Myoglobin, expressed in brown adipose tissue of mice, regulates the content and activity of mitochondria and lipid droplets. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2021, 1866, 159026.	2.4	14
63	Succinate Anaplerosis Has an Onco-Driving Potential in Prostate Cancer Cells. Cancers, 2021, 13, 1727.	3.7	13
64	Exercise Performance, Muscle Oxygen Extraction and Blood Cell Mitochondrial Respiration after Repeated-Sprint and Sprint Interval Training in Hypoxia: A Pilot Study. Journal of Sports Science and Medicine, 2018, 17, 339-347.	1.6	13
65	Effects of Ultramarathon Running on Mitochondrial Function of Platelets and Oxidative Stress Parameters: A Pilot Study. Frontiers in Physiology, 2021, 12, 632664.	2.8	12
66	Proline Oxidation Supports Mitochondrial ATP Production When Complex I Is Inhibited. International Journal of Molecular Sciences, 2022, 23, 5111.	4.1	12
67	Glucocorticoid-induced alterations in mitochondrial membrane properties and respiration in childhood acute lymphoblastic leukemia. Biochimica Et Biophysica Acta - Bioenergetics, 2011, 1807, 719-725.	1.0	11
68	Comparable respiratory activity in attached and suspended human fibroblasts. PLoS ONE, 2022, 17, e0264496.	2.5	10
69	Evaluation of mitochondrial function in chronic myofascial trigger points - a prospective cohort pilot study using high-resolution respirometry. BMC Musculoskeletal Disorders, 2018, 19, 388.	1.9	9
70	Dietary Iron Overload and Hfe α^{Δ} Related Hemochromatosis Alter Hepatic Mitochondrial Function. Antioxidants, 2021, 10, 1818.	5.1	8
71	Proenkephalin Derived Peptides Are Involved in the Modulation of Mitochondrial Respiratory Control During Epileptogenesis. Frontiers in Molecular Neuroscience, 2018, 11, 351.	2.9	6
72	Abstract 440: Myoglobin in breast cancer: Regulation, function and relevance. , 2010, , .		5

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73	Human Platelet Mitochondrial Function Reflects Systemic Mitochondrial Alterations: A Protocol for Application in Field Studies. <i>Cells</i> , 2021, 10, 2088.	4.1	4
74	Mitochondrial Respiration in Response to Iron Deficiency Anemia: Comparison of Peripheral Blood Mononuclear Cells and Liver. <i>Metabolites</i> , 2022, 12, 270.	2.9	4
75	Physical Activity and Cardiovascular Diseases Epidemiology and Primary Preventive and Therapeutic Targets. , 2013, , 127-144.		1
76	Mitochondrial Respiration of Platelets: Comparison of Isolation Methods. <i>Biomedicines</i> , 2021, 9, 1859.	3.2	1
77	DOES PREPARATION OF MITOCHONDRIA INFLUENCE THEIR FUNCTION? A STUDY ON CONTROL AND ENDOTOXIN CHALLENGED RATS. <i>Shock</i> , 2006, 26, 31-32.	2.1	0
78	Mitochondrial Respiration And Reactive Oxygen Species In Acute Pulmonary Oxygen Sensing Of Pulmonary Arterial Smooth Muscle Cells. , 2010, , .		0
79	Investigation Of Muscle Metabolism Of The Quadriceps Via High-resolution Respirometry and 31P MRS In Connection With A 10 Week Endurance Training. <i>Medicine and Science in Sports and Exercise</i> , 2011, 43, 71.	0.4	0
80	Arnold Durig (1872â€“1961): Life and Work. An Austrian Pioneer in Exercise and High Altitude Physiology. <i>High Altitude Medicine and Biology</i> , 2012, 13, 224-231.	0.9	0
81	Mitochondrial gene therapy improves respiration and biogenesis in mitochondrial diseases of children and adults. <i>Mitochondrion</i> , 2012, 12, 559-560.	3.4	0
82	The relationship between cytochrome redox state and oxygen consumption in isolated mouse and beef heart mitochondria during hypoxia. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2014, 1837, e72.	1.0	0
83	Combined high-resolution respirometry and fluorometry. Validation of safranin for determination of mitochondrial membrane potential. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2014, 1837, e72.	1.0	0
84	The protonmotive force under pressure: an isomorphic analysis. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2018, 1859, e12-e13.	1.0	0
85	Tissue- and substrate-specific patterns in the oxygen kinetics of mitochondrial respiration. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2018, 1859, e17.	1.0	0
86	Electron supply to the Q-junction: assessment of mitochondrial respiration, H ₂ O ₂ flux and the redox state of the Q-pool. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2018, 1859, e61.	1.0	0
87	Mitochondrial function and mitochondrial heteroplasmy levels differ between benign and malignant prostate tissue.. <i>Endocrine Abstracts</i> , 0, , .	0.0	0