Christian Frezza

List of Publications by Year
in descending order

137 papers	29,419 citations	13087 68 h-index	11303 136 g-index
160 all docs	160 docs citations	160 times ranked	46591 citing authors

#	Article	IF	Citations
1	Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). Autophagy, 2016, 12, 1-222.	4.3	4,701
2	Succinate is an inflammatory signal that induces IL-1Î² through HIF-1Îµ. Nature, 2013, 496, 238-242.	13.7	2,845
3	Ischaemic accumulation of succinate controls reperfusion injury through mitochondrial ROS. Nature, 2014, 515, 431-435.	13.7	1,989
4	OPA1 Controls Apoptotic Cristae Remodeling Independently from Mitochondrial Fusion. Cell, 2006, 126, 177-189.	13.5	1,403
5	Succinate Dehydrogenase Supports Metabolic Repurposing of Mitochondria to Drive Inflammatory Macrophages. Cell, 2016, 167, 457-470.e13.	13.5	1,396
6	Itaconate is an anti-inflammatory metabolite that activates Nrf2 via alkylation of KEAP1. Nature, 2018, 556, 113-117.	13.7	1,115
7	Organelle isolation: functional mitochondria from mouse liver, muscle and cultured filroblasts. Nature Protocols, 2007, 2, 287-295.	5.5	1,021
8	Mitochondrial Cristae Shape Determines Respiratory Chain Supercomplexes Assembly and Respiratory Efficiency. Cell, 2013, 155, 160-171.	13.5	955
9	Mitochondrial Rhomboid PARL Regulates Cytochrome c Release during Apoptosis via OPA1-Dependent Cristae Remodeling. Cell, 2006, 126, 163-175.	13.5	648
10	A Unifying Mechanism for Mitochondrial Superoxide Production during Ischemia-Reperfusion Injury. Cell Metabolism, 2016, 23, 254-263.	7.2	527
11	Serine is a natural ligand and allosteric activator of pyruvate kinase M2. Nature, 2012, 491, 458-462.	13.7	519
12	A roadmap for interpreting 13 C metabolite labeling patterns from cells. Current Opinion in Biotechnology, 2015, 34, 189-201.	3.3	513
13	Fumarate is an epigenetic modifier that elicits epithelial-to-mesenchymal transition. Nature, 2016, 537, 544-547.	13.7	443
14	Haem oxygenase is synthetically lethal with the tumour suppressor fumarate hydratase. Nature, 2011, 477, 225-228.	13.7	433
15	Serine Is an Essential Metabolite for Effector T Cell Expansion. Cell Metabolism, 2017, 25, 345-357.	7.2	429
16	Predicting selective drug targets in cancer through metabolic networks. Molecular Systems Biology, 2011, 7, 501.	3.2	418
17	Parkinson's disease mutations in PINK1 result in decreased Complex I activity and deficient synaptic function. EMBO Molecular Medicine, 2009, 1, 99-111.	3.3	360
18	Tissue-specific and convergent metabolic transformation of cancer correlates with metastatic potential and patient survival. Nature Communications, 2016, 7, 13041.	5.8	271

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19	Coupling Krebs cycle metabolites to signalling in immunity and cancer. Nature Metabolism, 2019, 1, 16-33.	5.1	260
20	Mutant Kras copy number defines metabolic reprogramming and therapeutic susceptibilities. Nature, 2016, 531, 110-113.	13.7	256
21	Mitochondria in cancer: Not just innocent bystanders. Seminars in Cancer Biology, 2009, 19, 4-11.	4.3	230
22	Metabolic reprogramming and epithelialâ€toâ€mesenchymal transition in cancer. FEBS Journal, 2017, 284, 3132-3144.	2.2	230
23	Dysregulated metabolism contributes to oncogenesis. Seminars in Cancer Biology, 2015, 35, S129-S150.	4.3	225
24	Designing a broad-spectrum integrative approach for cancer prevention and treatment. Seminars in Cancer Biology, 2015, 35, S276-S304.	4.3	220
25	The Mitochondrial Chaperone TRAP1 Promotes Neoplastic Growth by Inhibiting Succinate Dehydrogenase. Cell Metabolism, 2013, 17, 988-999.	7.2	217
26	Macrophage-Derived Extracellular Succinate Licenses Neural Stem Cells to Suppress Chronic Neuroinflammation. Cell Stem Cell, 2018, 22, 355-368.e13.	5.2	216
27	Identification of methylated deoxyadenosines in vertebrates reveals diversity in DNA modifications. Nature Structural and Molecular Biology, 2016, 23, 24-30.	3.6	215
28	Genome editing in mitochondria corrects a pathogenic mtDNA mutation in vivo. Nature Medicine, 2018, 24, 1691-1695.	15.2	215
29	Defects in mitochondrial metabolism and cancer. Cancer & Metabolism, 2014, 2, 10.	2.4	208
30	Fumarate induces redox-dependent senescence by modifying glutathione metabolism. Nature Communications, 2015, 6, 6001.	5.8	208
31	Crosstalk between mechanotransduction and metabolism. Nature Reviews Molecular Cell Biology, 2021, 22, 22-38.	16.1	193
32	Distinct Metabolic Requirements of Exhausted and Functional Virus-Specific CD8ÂT Cells in the Same Host. Cell Reports, 2016, 16, 1243-1252.	2.9	176
33	NADH Shuttling Couples Cytosolic Reductive Carboxylation of Glutamine with Glycolysis in Cells with Mitochondrial Dysfunction. Molecular Cell, 2018, 69, 581-593.e7.	4.5	171
34	Metabolite Exchange between Mammalian Organs Quantified in Pigs. Cell Metabolism, 2019, 30, 594-606.e3.	7.2	170
35	Cell Surface Proteomic Map of HIV Infection RevealsÂAntagonism of Amino Acid Metabolism by Vpu and Nef. Cell Host and Microbe, 2015, 18, 409-423.	5.1	158
36	Metabolic Profiling of Hypoxic Cells Revealed a Catabolic Signature Required for Cell Survival. PLoS ONE, 2011, 6, e24411.	1.1	150

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37	Germline FH Mutations Presenting With Pheochromocytoma. Journal of Clinical Endocrinology and Metabolism, 2014, 99, E2046-E2050.	1.8	147
38	Oncometabolites: Unconventional triggers of oncogenic signalling cascades. Free Radical Biology and Medicine, 2016, 100, 175-181.	1.3	137
39	Targeting Metabolic Plasticity and Flexibility Dynamics for Cancer Therapy. Cancer Discovery, 2020, 10, 1797-1807.	7.7	137
40	Mitochondria-Endoplasmic Reticulum Contact Sites Function as Immunometabolic Hubs that Orchestrate the Rapid Recall Response of Memory CD8+ T Cells. Immunity, 2018, 48, 542-555.e6.	6.6	133
41	Inborn and acquired metabolic defects in cancer. Journal of Molecular Medicine, 2011, 89, 213-220.	1.7	132
42	Prognostic and Therapeutic Impact of Argininosuccinate Synthetase 1 Control in Bladder Cancer as Monitored Longitudinally by PET Imaging. Cancer Research, 2014, 74, 896-907.	0.4	122
43	Bone Marrow Mesenchymal Stem Cells Support Acute Myeloid Leukemia Bioenergetics and Enhance Antioxidant Defense and Escape from Chemotherapy. Cell Metabolism, 2020, 32, 829-843.e9.	7.2	122
44	Phenotype-based cell-specific metabolic modeling reveals metabolic liabilities of cancer. ELife, 2014, 3, .	2.8	116
45	Glutaminolysis is a metabolic dependency in FLT3ITD acute myeloid leukemia unmasked by FLT3 tyrosine kinase inhibition. Blood, 2018, 131, 1639-1653.	0.6	114
46	A computational study of the Warburg effect identifies metabolic targets inhibiting cancer migration. Molecular Systems Biology, 2014, 10, 744.	3.2	113
47	A three-dimensional engineered tumour for spatial snapshot analysis of cell metabolism andÂphenotype in hypoxic gradients. Nature Materials, 2016, 15, 227-234.	13.3	113
48	Oncometabolites in renal cancer. Nature Reviews Nephrology, 2020, 16, 156-172.	4.1	113
49	Mitochondrial Protein Lipoylation and the 2-Oxoglutarate Dehydrogenase Complex Controls HIF1Î± Stability in Aerobic Conditions. Cell Metabolism, 2016, 24, 740-752.	7.2	112
50	Reactivating HIF prolyl hydroxylases under hypoxia results in metabolic catastrophe and cell death. Oncogene, 2009, 28, 4009-4021.	2.6	108
51	Succinate metabolism: a new therapeutic target for myocardial reperfusion injury. Cardiovascular Research, 2016, 111, 134-141.	1.8	107
52	Extracellular vesicles are independent metabolic units with asparaginase activity. Nature Chemical Biology, 2017, 13, 951-955.	3.9	107
53	HIF-independent role of prolyl hydroxylases in the cellular response to amino acids. Oncogene, 2013, 32, 4549-4556.	2.6	106
54	Succinate accumulation drives ischaemia-reperfusion injury during organ transplantation. Nature Metabolism, 2019, 1, 966-974.	5.1	103

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55	Fumarate hydratase in cancer: A multifaceted tumour suppressor. Seminars in Cell and Developmental Biology, 2020, 98, 15-25.	2.3	103
56	Inhibition of glucose-6-phosphate dehydrogenase sensitizes cisplatin-resistant cells to death. Oncotarget, 2015, 6, 30102-30114.	0.8	101
57	Near-complete elimination of mutant mtDNA by iterative or dynamic dose-controlled treatment with mtZFNs. Nucleic Acids Research, 2016, 44, 7804-7816.	6.5	97
58	Cancer associated fibroblast FAK regulates malignant cell metabolism. Nature Communications, 2020, 11, 1290.	5.8	95
59	Neural stem cells traffic functional mitochondria via extracellular vesicles. PLoS Biology, 2021, 19, e3001166.	2.6	95
60	Integrated Pharmacodynamic Analysis Identifies Two Metabolic Adaption Pathways to Metformin in Breast Cancer. Cell Metabolism, 2018, 28, 679-688.e4.	7.2	92
61	Mitochondrial DNA: the overlooked oncogenome?. BMC Biology, 2019, 17, 53.	1.7	92
62	A novel deletion in the GTPase domain of OPA1 causes defects in mitochondrial morphology and distribution, but not in function. Human Molecular Genetics, 2008, 17, 3291-3302.	1.4	91
63	Mitochondrial metabolites: undercover signalling molecules. Interface Focus, 2017, 7, 20160100.	1.5	89
64	Outcompeting p53-Mutant Cells in the Normal Esophagus by Redox Manipulation. Cell Stem Cell, 2019, 25, 329-341.e6.	5.2	88
65	Reversed argininosuccinate lyase activity in fumarate hydratase-deficient cancer cells. Cancer & Metabolism, 2013, 1, 12.	2.4	87
66	The Metabolic Alterations of Cancer Cells. Methods in Enzymology, 2014, 542, 1-23.	0.4	87
67	Convergent somatic mutations in metabolism genes in chronic liver disease. Nature, 2021, 598, 473-478.	13.7	87
68	Proteomics-Based Metabolic Modeling Reveals That Fatty Acid Oxidation (FAO) Controls Endothelial Cell (EC) Permeability. Molecular and Cellular Proteomics, 2015, 14, 621-634.	2.5	85
69	Causal integration of multiâ€omics data with prior knowledge to generate mechanistic hypotheses. Molecular Systems Biology, 2021, 17, e9730.	3.2	78
70	Acute Iron Deprivation Reprograms Human Macrophage Metabolism and Reduces Inflammation InÂVivo. Cell Reports, 2019, 28, 498-511.e5.	2.9	75
71	Accumulated Metabolites of Hydroxybutyric Acid Serve as Diagnostic and Prognostic Biomarkers of Ovarian High-Grade Serous Carcinomas. Cancer Research, 2016, 76, 796-804.	0.4	74
72	Metabolism and cancer: the future is now. British Journal of Cancer, 2020, 122, 133-135.	2.9	67

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73	Metabolomic Profiling in Acute STâ€Segmentâ€“Elevation Myocardial Infarction Identifies Succinate as an Early Marker of Human Ischemiaâ€“Reperfusion Injury. Journal of the American Heart Association, 2018, 7, .	1.6	66
74	Dissection of metabolic reprogramming in polycystic kidney disease reveals coordinated rewiring of bioenergetic pathways. Communications Biology, 2018, 1, 194.	2.0	65
75	IDH1 Mutations in Gliomas: When an Enzyme Loses Its Grip. Cancer Cell, 2010, 17, 7-9.	7.7	63
76	A computational study of the Warburg effect identifies metabolic targets inhibiting cancer migration. Molecular Systems Biology, 2014, 10, .	3.2	63
77	Fumarate Hydratase Loss Causes Combined Respiratory Chain Defects. Cell Reports, 2017, 21, 1036-1047.	2.9	61
78	Mitochondrial Metabolism: Yin and Yang for Tumor Progression. Trends in Endocrinology and Metabolism, 2017, 28, 748-757.	3.1	59
79	Mechanism of succinate efflux upon reperfusion of the ischaemic heart. Cardiovascular Research, 2021, 117, 1188-1201.	1.8	59
80	Nuclear <scp>ARRB</scp> 1 induces pseudohypoxia and cellular metabolism reprogramming in prostate cancer. EMBO Journal, 2014, 33, 1365-1382.	3.5	57
81	High-grade ovarian serous carcinoma patients exhibit profound alterations in lipid metabolism. Oncotarget, 2017, 8, 102912-102922.	0.8	57
82	Control of endothelial quiescence by FOXO-regulated metabolites. Nature Cell Biology, 2021, 23, 413-423.	4.6	56
83	Mutations in mitochondrial DNA causing tubulointerstitial kidney disease. PLoS Genetics, 2017, 13, e1006620.	1.5	52
84	Nrf2 activation reprograms macrophage intermediary metabolism and suppresses the type I interferon response. IScience, 2022, 25, 103827.	1.9	51
85	Metabolic synthetic lethality in cancer therapy. Biochimica Et Biophysica Acta - Bioenergetics, 2017, 1858, 723-731.	0.5	50
86	Predicting selective drug targets in cancer through metabolic networks. Molecular Systems Biology, 2011, 7, .	3.2	48
87	Mammalian Circadian Period, But Not Phase and Amplitude, Is Robust Against Redox and Metabolic Perturbations. Antioxidants and Redox Signaling, 2018, 28, 507-520.	2.5	48
88	Disruption of the TCA cycle reveals an ATF4-dependent integration of redox and amino acid metabolism. ELife, 2021, 10, .	2.8	44
89	The role of mitochondria in the oncogenic signal transduction. International Journal of Biochemistry and Cell Biology, 2014, 48, 11-17.	1.2	43
90	The music of lipids: How lipid composition orchestrates cellular behaviour. Acta OncolÃ³gica, 2012, 51, 301-310.	0.8	41

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91	Ischemic preconditioning protects against cardiac ischemia reperfusion injury without affecting succinate accumulation or oxidation. Journal of Molecular and Cellular Cardiology, 2018, 123, 88-91.	0.9	38
92	TCA cycle signalling and the evolution of eukaryotes. Current Opinion in Biotechnology, 2021, 68, 72-88.	3.3	34
93	The context-specific roles of urea cycle enzymes in tumorigenesis. Molecular Cell, 2021, 81, 3749-3759.	4.5	34
94	Metabolic Reprograming of Mononuclear Phagocytes in Progressive Multiple Sclerosis. Frontiers in Immunology, 2015, 6, 106.	2.2	33
95	4-Hydroxymethyl-1,6,8-trimethylfuro[2,3-h]quinolin-2(1H)-one Induces Mitochondrial Dysfunction and Apoptosis upon Its Intracellular Oxidation. Journal of Medicinal Chemistry, 2005, 48, 192-199.	2.9	32
96	Hypoxia-induced nitric oxide production and tumour perfusion is inhibited by pegylated arginine deiminase (ADI-PEG20). Scientific Reports, 2016, 6, 22950.	1.6	32
97	Metabolic Drivers in Hereditary Cancer Syndromes. Annual Review of Cancer Biology, 2020, 4, 77-97.	2.3	32
98	Fumarate hydratase loss promotes mitotic entry in the presence of DNA damage after ionising radiation. Cell Death and Disease, 2018, 9, 913.	2.7	30
99	First-in-human in vivo non-invasive assessment of intra-tumoral metabolic heterogeneity in renal cell carcinoma. BJR|case Reports, 2019, 5, 20190003.	0.1	28
100	Transcriptomic analysis of human primary breast cancer identifies fatty acid oxidation as a target for metformin. British Journal of Cancer, 2020, 122, 258-265.	2.9	28
101	ABHD11 maintains 2-oxoglutarate metabolism by preserving functional lipoylation of the 2-oxoglutarate dehydrogenase complex. Nature Communications, 2020, 11, 4046.	5.8	28
102	Post-translational regulation of metabolism in fumarate hydratase deficient cancer cells. Metabolic Engineering, 2018, 45, 149-157.	3.6	27
103	Metabolic determinants of the immune modulatory function of neural stem cells. Journal of Neuroinflammation, 2016, 13, 232.	3.1	25
104	Addicted to serine. Nature Chemical Biology, 2016, 12, 389-390.	3.9	25
105	Fumarate drives EMT in renal cancer. Cell Death and Differentiation, 2017, 24, 1-2.	5.0	24
106	BCAT1 affects mitochondrial metabolism independently of leucine transamination in activated human macrophages. Journal of Cell Science, 2020, 133, .	1.2	24
107	Metabolic Reprogramming and Oncogenesis. International Review of Cell and Molecular Biology, 2017, 332, 213-231.	1.6	23
108	Eukaryotic cell biology is temporally coordinated to support the energetic demands of protein homeostasis. Nature Communications, 2020, 11, 4706.	5.8	23

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109	Measuring Mitochondrial Shape Changes and Their Consequences on Mitochondrial Involvement During Apoptosis. Methods in Molecular Biology, 2007, 372, 405-420.	0.4	23
110	From tumor prevention to therapy: Empowering p53 to fight back. Drug Resistance Updates, 2012, 15, 258-267.	6.5	22
111	Histidine metabolism boosts cancer therapy. Nature, 2018, 559, 484-485.	13.7	21
112	mTORC1ÂUpregulation Leads to Accumulation of the Oncometabolite Fumarate in a Mouse Model of Renal Cell Carcinoma. Cell Reports, 2018, 24, 1093-1104.e6.	2.9	20
113	Two parallel pathways connect glutamine metabolism and mTORC1 activity to regulate glutamoptosis. Nature Communications, 2021, 12, 4814.	5.8	19
114	Deletion of myeloid IRS2 enhances adipose tissue sympathetic nerve function and limits obesity. Molecular Metabolism, 2019, 20, 38-50.	3.0	18
115	High throughput synthetic lethality screen reveals a tumorigenic role of adenylate cyclase in fumarate hydratase-deficient cancer cells. BMC Genomics, 2014, 15, 158.	1.2	16
116	Signaling metabolite L-2-hydroxyglutarate activates the transcription factor HIF-1Î± in lipopolysaccharide-activated macrophages. Journal of Biological Chemistry, 2022, 298, 101501.	1.6	15
117	CHCHD4 regulates tumour proliferation and EMT-related phenotypes, through respiratory chain-mediated metabolism. Cancer & Metabolism, 2019, 7, 7.	2.4	13
118	Succinate Anaplerosis Has an Onco-Driving Potential in Prostate Cancer Cells. Cancers, 2021, 13, 1727.	1.7	13
119	Exploiting tumour addiction with a serine and glycine-free diet. Cell Death and Differentiation, 2017, 24, 1311-1313.	5.0	13
120	Predicting selective drug targets in cancer through metabolic networks. Molecular Systems Biology, 2011, 7, .	3.2	10
121	Editorial: The Metabolic Challenges of Immune Cells in Health and Disease. Frontiers in Immunology, 2015, 6, 293.	2.2	10
122	Identification of Methylated Deoxyadenosines in Genomic DNA by dA6m DNA Immunoprecipitation. Bio-protocol, 2016, 6, .	0.2	10
123	Early Neutrophilia Marked by Aerobic Glycolysis Sustains Host Metabolism and Delays Cancer Cachexia. Cancers, 2022, 14, 963.	1.7	9
124	Tumor-Derived Lactic Acid Modulates Activation and Metabolic Status of Draining Lymph Node Stroma. Cancer Immunology Research, 2022, 10, 482-497.	1.6	9
125	Phytochemical profiles, antioxidant and anti-acetylcholinesterasic activities of the leaf extracts of Rhamnus lycioides subsp. oleoides (L.) Jahand. & Maire in different solvents. Natural Product Research, 2019, 33, 1456-1462.	1.0	8
126	Astrocyte power fuels neurons during stroke. Swiss Medical Weekly, 2016, 146, w14374.	0.8	8

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127	The breast cancer oncogene IKKÎµ coordinates mitochondrial function and serine metabolism. EMBO Reports, 2020, 21, e48260.	2.0	6
128	PLK1 inhibition selectively induces apoptosis in ARID1A deficient cells through uncoupling of oxygen consumption from ATP production. Oncogene, 2022, 41, 1986-2002.	2.6	5
129	Fbxo7 promotes Cdk6 activity to inhibit PFKP and glycolysis in T cells. Journal of Cell Biology, 2022, 221, .	2.3	5
130	Genome and metabolome: chance and necessity. Genome Biology, 2021, 22, 276.	3.8	4
131	IL-10-Mediated Refueling of Exhausted T Cell Mitochondria Boosts Anti-Tumour Immunity. Immunometabolism, 2021, 3, e210030.	0.7	2
132	Lung tumor growth promotion by tobacco-specific nitrosamines involves the Î²2-adrenergic receptors-dependent stimulation of mitochondrial REDOX signaling. Antioxidants and Redox Signaling, 2021, , .	2.5	2
133	A BAD portion of glucose can be good for inflamed beta cells. Nature Metabolism, 2020, 2, 383-384.	5.1	1
134	Abstract LB-200: Integrating dynamic 18F-FDG PET-CT, tumor metabolomics and functional genomics to understand metformin's pharmacodynamic effects in breast cancer: results of a phase 0 clinical trial. , 2016, , .		1
135	S9.7 Dominant optic atrophy caused by a novel OPA1 mutation: Disruption of the mitochondrial network with preserved bioenergetics. Biochimica Et Biophysica Acta - Bioenergetics, 2008, 1777, S56.	0.5	0
136	Metabolic adaptations to targeted therapy in FLT3 mutated acute myeloid leukaemia. Lancet, The, 2017, 389, S37.	6.3	0
137	Immunohistochemistry as a tool for screening rare renal cancers. Annals of Translational Medicine, 2019, 7, S314-S314.	0.7	0