Barbara M Bakker

List of Publications by Year
in descending order

76 papers	8,352 citations	136740 32 h-index	79541 73 g-index
82 all docs	82 docs citations	82 times ranked	12444 citing authors

#	Article	IF	Citations
1	The role of short-chain fatty acids in the interplay between diet, gut microbiota, and host energy metabolism. Journal of Lipid Research, 2013, 54, 2325-2340.	2.0	3,292
2	Short-Chain Fatty Acids Protect Against High-Fat Dietâ€œInduced Obesity via a PPARÎ³-Dependent Switch From Lipogenesis to Fat Oxidation. Diabetes, 2015, 64, 2398-2408.	0.3	734
3	Can yeast glycolysis be understood in terms of in vitro kinetics of the constituent enzymes? Testing biochemistry. FEBS Journal, 2000, 267, 5313-5329.	0.2	587
4	Stoichiometry and compartmentation of NADH metabolism inSaccharomyces cerevisiae. FEMS Microbiology Reviews, 2001, 25, 15-37.	3.9	410
5	Gut-derived short-chain fatty acids are vividly assimilated into host carbohydrates and lipids. American Journal of Physiology - Renal Physiology, 2013, 305, G900-G910.	1.6	401
6	A Proinflammatory Gut Microbiota Increases Systemic Inflammation and Accelerates Atherosclerosis. Circulation Research, 2019, 124, 94-100.	2.0	226
7	The fluxes through glycolytic enzymes in <i>Saccharomyces cerevisiae</i> are predominantly regulated at posttranscriptional levels. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15753-15758.	3.3	223
8	Glycolysis in Bloodstream Form Trypanosoma brucei Can Be Understood in Terms of the Kinetics of the Glycolytic Enzymes. Journal of Biological Chemistry, 1997, 272, 3207-3215.	1.6	194
9	Measuring enzyme activities under standardized <i>inâ€ƒvivo</i>â€‹like conditions for systems biology. FEBS Journal, 2010, 277, 749-760.	2.2	147
10	Unraveling the complexity of flux regulation: A new method demonstrated for nutrient starvation inSaccharomyces cerevisiae. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2166-2171.	3.3	137
11	Malnutrition-associated liver steatosis and ATP depletion is caused by peroxisomal and mitochondrial dysfunction. Journal of Hepatology, 2016, 65, 1198-1208.	1.8	133
12	Integrated multilaboratory systems biology reveals differences in protein metabolism between two reference yeast strains. Nature Communications, 2010, 1, 145.	5.8	100
13	Protection against the Metabolic Syndrome by Guar Gum-Derived Short-Chain Fatty Acids Depends on Peroxisome Proliferator-Activated Receptor Î³ and Glucagon-Like Peptide-1. PLoS ONE, 2015, 10, e0136364.	1.1	97
14	Testing Biochemistry Revisited: How In Vivo Metabolism Can Be Understood from In Vitro Enzyme Kinetics. PLoS Computational Biology, 2012, 8, e1002483.	1.5	88
15	Control and Regulation of Gene Expression. Journal of Biological Chemistry, 2008, 283, 2495-2507.	1.6	76
16	Hierarchical and metabolic regulation of glucose influx in starved. FEMS Yeast Research, 2005, 5, 611-619.	1.1	69
17	Quantitative Analysis of the High Temperature-induced Glycolytic Flux Increase in Saccharomyces cerevisiae Reveals Dominant Metabolic Regulation. Journal of Biological Chemistry, 2008, 283, 23524-23532.	1.6	65
18	Standards for Reporting Enzyme Data: The STRENDA Consortium: What it aims to do and why it should be helpful. Perspectives in Science, 2014, 1, 131-137.	0.6	65

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19	The Short-Chain Fatty Acid Uptake Fluxes by Mice on a Guar Gum Supplemented Diet Associate with Amelioration of Major Biomarkers of the Metabolic Syndrome. PLoS ONE, 2014, 9, e107392.	1.1	63
20	Biochemical Competition Makes Fatty-Acid Î²-Oxidation Vulnerable to Substrate Overload. PLoS Computational Biology, 2013, 9, e1003186.	1.5	58
21	A model reduction method for biochemical reaction networks. BMC Systems Biology, 2014, 8, 52.	3.0	58
22	Progressive methylation of ageing histones by Dot1 functions as a timer. EMBO Reports, 2011, 12, 956-962.	2.0	56
23	How Molecular Competition Influences Fluxes in Gene Expression Networks. PLoS ONE, 2011, 6, e28494.	1.1	49
24	SK2 channels regulate mitochondrial respiration and mitochondrial Ca2+ uptake. Cell Death and Differentiation, 2017, 24, 761-773.	5.0	48
25	CoAâ€dependent activation of mitochondrial acyl carrier protein links four neurodegenerative diseases. EMBO Molecular Medicine, 2019, 11, e10488.	3.3	46
26	Quantitative analysis of amino acid metabolism in liver cancer links glutamate excretion to nucleotide synthesis. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10294-10304.	3.3	45
27	Targeting pathogen metabolism without collateral damage to the host. Scientific Reports, 2017, 7, 40406.	1.6	42
28	Translational Targeted Proteomics Profiling of Mitochondrial Energy Metabolic Pathways in Mouse and Human Samples. Journal of Proteome Research, 2016, 15, 3204-3213.	1.8	40
29	The importance and challenges of in vivo-like enzyme kinetics. Perspectives in Science, 2014, 1, 126-130.	0.6	39
30	STRENDA DB: enabling the validation and sharing of enzyme kinetics data. FEBS Journal, 2018, 285, 2193-2204.	2.2	38
31	Renal temperature reduction progressively favors mitochondrial ROS production over respiration in hypothermic kidney preservation. Journal of Translational Medicine, 2019, 17, 265.	1.8	38
32	Metabolic regulation rather than <i>de novo</i> enzyme synthesis dominates the osmoâ€adaptation of yeast. Yeast, 2011, 28, 43-53.	0.8	37
33	SK channel-mediated metabolic escape to glycolysis inhibits ferroptosis and supports stress resistance in C. elegans. Cell Death and Disease, 2020, 11, 263.	2.7	34
34	Yeast glycolytic oscillations that are not controlled by a single oscillophore: a new definition of oscillophore strength. Journal of Theoretical Biology, 2005, 232, 385-398.	0.8	31
35	Runningâ€wheel activity delays mitochondrial respiratory flux decline in aging mouse muscle via a postâ€transcriptional mechanism. Aging Cell, 2018, 17, e12700.	3.0	31
36	Living on the edge: substrate competition explains loss of robustness in mitochondrial fatty-acid oxidation disorders. BMC Biology, 2016, 14, 107.	1.7	27

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37	Network-based selectivity of antiparasitic inhibitors. Molecular Biology Reports, 2002, 29, 1-5.	1.0	25
38	The silicon trypanosome. Parasitology, 2010, 137, 1333-1341.	0.7	25
39	Simultaneous Induction of Glycolysis and Oxidative Phosphorylation during Activation of Hepatic Stellate Cells Reveals Novel Mitochondrial Targets to Treat Liver Fibrosis. Cells, 2020, 9, 2456.	1.8	25
40	Timeâ€dependent regulation analysis dissects shifts between metabolic and geneâ€expression regulation during nitrogen starvation in bakerâ€™s yeast. FEBS Journal, 2009, 276, 5521-5536.	2.2	24
41	The promiscuous enzyme medium-chain 3-keto-acyl-CoA thiolase triggers a vicious cycle in fatty-acid beta-oxidation. PLoS Computational Biology, 2017, 13, e1005461.	1.5	23
42	Systems biology from micro-organisms to human metabolic diseases: the role of detailed kinetic models. Biochemical Society Transactions, 2010, 38, 1294-1301.	1.6	22
43	Dissecting the Catalytic Mechanism of Trypanosoma brucei Trypanothione Synthetase by Kinetic Analysis and Computational Modeling. Journal of Biological Chemistry, 2013, 288, 23751-23764.	1.6	22
44	Drug target identification through systems biology. Drug Discovery Today: Technologies, 2015, 15, 17-22.	4.0	22
45	Inhibition of the succinyl dehydrogenase complex in acute myeloid leukemia leads to a lactate-fuelled respiratory metabolic vulnerability. Nature Communications, 2022, 13, 2013.	5.8	22
46	Male apoE*3-Leiden.CETP mice on high-fat high-cholesterol diet exhibit a biphasic dyslipidemic response, mimicking the changes in plasma lipids observed through life in men. Physiological Reports, 2017, 5, e13376.	0.7	19
47	In or out? On the tightness of glycosomal compartmentalization of metabolites and enzymes in Trypanosoma brucei. Molecular and Biochemical Parasitology, 2014, 198, 18-28.	0.5	18
48	Shortâ€term protein restriction at advanced age stimulates FGF21 signalling, energy expenditure and browning of white adipose tissue. FEBS Journal, 2021, 288, 2257-2277.	2.2	18
49	Short-Chain Fatty Acids in the Metabolism of Heart Failure â€" Rethinking the Fat Stigma. Frontiers in Cardiovascular Medicine, 0, 9, .	1.1	18
50	Enzyme Kinetics for Systems Biology. Methods in Enzymology, 2011, 500, 233-257.	0.4	16
51	News about old histones: A role for histone age in controlling the epigenome. Cell Cycle, 2012, 11, 11-12.	1.3	16
52	Dot1 histone methyltransferases share a distributive mechanism but have highly diverged catalytic properties. Scientific Reports, 2015, 5, 9824.	1.6	15
53	Whole-Body Vibration Partially Reverses Aging-Induced Increases in Visceral Adiposity and Hepatic Lipid Storage in Mice. PLoS ONE, 2016, 11, e0149419.	1.1	15
54	Systems biochemistry in practice: experimenting with modelling and understanding, with regulation and control. Biochemical Society Transactions, 2010, 38, 1189-1196.	1.6	14

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55	A new regulatory principle for in vivo biochemistry: Pleiotropic low affinity regulation by the adenine nucleotides â€“ Illustrated for the glycolytic enzymes of <i>Saccharomyces cerevisiae</i>. FEBS Letters, 2013, 587, 2860-2867.	1.3	14
56	Effect of<i>hxk2</i>deletion and<i>HAP4</i>overexpression on fermentative capacity in<i>Saccharomyces cerevisiae</i>. FEMS Yeast Research, 2008, 8, 195-203.	1.1	13
57	Full humanization of the glycolytic pathway in Saccharomyces cerevisiae. Cell Reports, 2022, 39, 111010.	2.9	13
58	Mixed and diverse metabolic and gene-expression regulation of the glycolytic and fermentative pathways in response to a<i>HXK2</i>deletion in<i>Saccharomyces cerevisiae</i>. FEMS Yeast Research, 2008, 8, 155-164.	1.1	12
59	Quantitative Analysis of Flux Regulation Through Hierarchical Regulation Analysis. Methods in Enzymology, 2011, 500, 571-595.	0.4	12
60	A kinetic model of catabolic adaptation and protein reprofiling in <i>SaccharomycesÂcerevisiae</i> during temperature shifts. FEBS Journal, 2014, 281, 825-841.	2.2	12
61	Age-related susceptibility to insulin resistance arises from a combination of CPT1B decline and lipid overload. BMC Biology, 2021, 19, 154.	1.7	12
62	Simultaneous Quantification of the Concentration and Carbon Isotopologue Distribution of Polar Metabolites in a Single Analysis by Gas Chromatography and Mass Spectrometry. Analytical Chemistry, 2021, 93, 8248-8256.	3.2	11
63	Cofactors revisited â€“ Predicting the impact of flavoprotein-related diseases on a genome scale. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2019, 1865, 360-370.	1.8	10
64	The Effects of Butyrate on Induced Metabolic-Associated Fatty Liver Disease in Precision-Cut Liver Slices. Nutrients, 2021, 13, 4203.	1.7	10
65	A toolbox for the comprehensive analysis of small volume human intestinal samples that can be used with gastrointestinal sampling capsules. Scientific Reports, 2021, 11, 8133.	1.6	9
66	Fibroblastâ€specific genomeâ€scale modelling predicts an imbalance in amino acid metabolism in Refsum disease. FEBS Journal, 2020, 287, 5096-5113.	2.2	8
67	Pyruvate Dehydrogenase Kinase Inhibition by Dichloroacetate in Melanoma Cells Unveils Metabolic Vulnerabilities. International Journal of Molecular Sciences, 2022, 23, 3745.	1.8	6
68	The Silicon Trypanosome. Advances in Microbial Physiology, 2014, 64, 115-143.	1.0	5
69	From Silicon Cell to Silicon Human. , 2011, , 437-458.		4
70	Bistability in fatty-acid oxidation resulting from substrate inhibition. PLoS Computational Biology, 2021, 17, e1009259.	1.5	4
71	Transcriptome analysis suggests a compensatory role of the cofactors coenzyme A and NAD+ in medium-chain acyl-CoA dehydrogenase knockout mice. Scientific Reports, 2019, 9, 14539.	1.6	3
72	Butyrate oxidation attenuates the butyrate-induced improvement of insulin sensitivity in myotubes. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2022, 1868, 166476.	1.8	3

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73	Handling Biological Complexity Using Kron Reduction. Lecture Notes in Control and Information Sciences, 2015, , 73-93.	0.6	2
74	Modeling Distributive Histone Modification by Dot1 Methyltransferases. , 2017, , 117-141.		2
75	Running wheel access fails to resolve impaired sustainable health in mice feeding a high fat sucrose diet. Aging, 2019, 11, 1564-1579.	1.4	2
76	Targeted Proteomics to Study Mitochondrial Biology. Advances in Experimental Medicine and Biology, 2019, 1158, 101-117.	0.8	1