Douglas L Rothman

List of Publications by Year in Descending Order

234 papers	18,140 citations	70 h-index	132 g-index
250 ext. papers	20,043 ext. citations	8 avg, IF	6.43 L-index

#	Paper	IF	Citations
234	Rates of pyruvate carboxylase, glutamate and GABA neurotransmitter cycling, and glucose oxidation in multiple brain regions of the awake rat using a combination of [2-C]/[1-C]glucose infusion and H-[C]NMR .. *Journal of Cerebral Blood Flow and Metabolism*, **2022**, 271678X221074211	7.3	0
233	Human brain functional MRS reveals interplay of metabolites implicated in neurotransmission and neuroenergetics.. *Journal of Cerebral Blood Flow and Metabolism*, **2022**, 271678X221076570	7.3	3
232	Glucose sparing by glycogenolysis (GSG) determines the relationship between brain metabolism and neurotransmission.. *Journal of Cerebral Blood Flow and Metabolism*, **2022**, 271678X211064399	7.3	2
231	Reversibility of brain glucose kinetics in type 2 diabetes mellitus.. *Diabetologia*, **2022**, 65, 895	10.3	1
230	From a Demand-Based to a Supply-Limited Framework of Brain Metabolism.. *Frontiers in Integrative Neuroscience*, **2022**, 16, 818685	3.2	1
229	Prefrontal Glutamate Neurotransmission in PTSD: A Novel Approach to Estimate Synaptic Strength in Vivo in Humans.. *Chronic Stress*, **2022**, 6, 24705470221092734	3	1
228	Gene expression regulates metabolite homeostasis during the Crabtree effect: Implications for the adaptation and evolution of Metabolism. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	3
227	Point: An alternative hypothesis for why exposure to static magnetic and electric fields treats type 2 diabetes. *American Journal of Physiology - Endocrinology and Metabolism*, **2021**, 320, E999-E1000	6	2
226	Reply to Carter et al.: An alternative hypothesis for why exposure to static magnetic and electric fields treats type 2 diabetes. *American Journal of Physiology - Endocrinology and Metabolism*, **2021**, 320, E1003	6	
225	Methods | 13C MRS Measurements of in Vivo Rates of the Glutamate/Glutamine and GABA/Glutamine Neurotransmitter Cycles **2021**, 688-700		
224	Analysis of the time course of COVID-19 cases and deaths from countries with extensive testing allows accurate early estimates of the age specific symptomatic CFR values. *PLoS ONE*, **2021**, 16, e0253843	3.7	0
223	H Magnetic Resonance Spectroscopy to Understand the Biological Basis of ALS, Diagnose Patients Earlier, and Monitor Disease Progression. *Frontiers in Neurology*, **2021**, 12, 701170	4.1	1
222	Two transition states of the glycogen shunt and two steady states of gene expression support metabolic flexibility and the Warburg effect in cancer. *Neoplasia*, **2021**, 23, 879-886	6.4	2
221	Metabolic underpinnings of activated and deactivated cortical areas in human brain. *Journal of Cerebral Blood Flow and Metabolism*, **2021**, 41, 986-1000	7.3	3
220	Early life stress and glutamate neurotransmission in major depressive disorder. *European Neuropsychopharmacology*, **2020**, 35, 71-80	1.2	5
219	Metabolic control analysis of hepatic glycogen synthesis in vivo. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 8166-8176	11.5	22
218	Elevated homocarnosine and GABA in subject on isoniazid as assessed through 1H MRS at 7T. *Analytical Biochemistry*, **2020**, 599, 113738	3.1	3

217	Extracellular pH mapping of liver cancer on a clinical 3T MRI scanner. *Magnetic Resonance in Medicine*, **2020**, 83, 1553-1564	4.4	21
216	Prognosticating brain tumor patient survival after laser thermotherapy: Comparison between neuroradiological reading and semi-quantitative analysis of MRI data. *Magnetic Resonance Imaging*, **2020**, 65, 45-54	3.3	2
215	Dissociation of Muscle Insulin Resistance from Alterations in Mitochondrial Substrate Preference. *Cell Metabolism*, **2020**, 32, 726-735.e5	24.6	10
214	Reevaluation of Astrocyte-Neuron Energy Metabolism with Astrocyte Volume Fraction Correction: Impact on Cellular Glucose Oxidation Rates, Glutamate-Glutamine Cycle Energetics, Glycogen Levels and Utilization Rates vs. Exercising Muscle, and Na/K Pumping Rates. *Neurochemical Research*, **2020**, 45, 2607-2630	4.6	10
213	Hippocampal Pathology in Clinical High-Risk Patients and the Onset of Schizophrenia. *Biological Psychiatry*, **2020**, 87, 234-242	7.9	27
212	Dynamic Thermal Mapping of Localized Therapeutic Hypothermia in the Brain. *Journal of Neurotrauma*, **2020**, 37, 55-65	5.4	6
211	A Non-cognitive Behavioral Model for Interpreting Functional Neuroimaging Studies. *Frontiers in Human Neuroscience*, **2019**, 13, 28	3.3	4
210	Strength of resting state functional connectivity and local GABA concentrations predict oral reading of real and pseudo-words. *Scientific Reports*, **2019**, 9, 11385	4.9	4
209	Glutaminase activity in GLS1 Het mouse brain compared to putative pharmacological inhibition by ebselen using ex vivo MRS. *Neurochemistry International*, **2019**, 129, 104508	4.4	2
208	In vivo C and H-[C] MRS studies of neuroenergetics and neurotransmitter cycling, applications to neurological and psychiatric disease and brain cancer. *NMR in Biomedicine*, **2019**, 32, e4172	4.4	19
207	Development of a Model to Test Whether Glycogenolysis Can Support Astrocytic Energy Demands of Na, K-ATPase and Glutamate-Glutamine Cycling, Sparing an Equivalent Amount of Glucose for Neurons. *Advances in Neurobiology*, **2019**, 23, 385-433	2.1	6
206	Glycogenolysis in Cerebral Cortex During Sensory Stimulation, Acute Hypoglycemia, and Exercise: Impact on Astrocytic Energetics, Aerobic Glycolysis, and Astrocyte-Neuron Interactions. *Advances in Neurobiology*, **2019**, 23, 209-267	2.1	14
205	Glymphatic System Function in Relation to Anesthesia and Sleep States. *Anesthesia and Analgesia*, **2019**, 128, 747-758	3.9	51
204	Functional MRS with J-edited lactate in human motor cortex at 4 T. *NeuroImage*, **2019**, 184, 101-108	7.9	10
203	Glycemic Variability and Brain Glucose Levels in Type 1 Diabetes. *Diabetes*, **2019**, 68, 163-171	0.9	18
202	Cellular Origin of [F]FDG-PET Imaging Signals During Ceftriaxone-Stimulated Glutamate Uptake: Astrocytes and Neurons. *Neuroscientist*, **2018**, 24, 316-328	7.6	9
201	Evaluating the gray and white matter energy budgets of human brain function. *Journal of Cerebral Blood Flow and Metabolism*, **2018**, 38, 1339-1353	7.3	64
200	The effects of ketamine on prefrontal glutamate neurotransmission in healthy and depressed subjects. *Neuropsychopharmacology*, **2018**, 43, 2154-2160	8.7	92

199	Impact of Global Mean Normalization on Regional Glucose Metabolism in the Human Brain. *Neural Plasticity*, **2018**, 2018, 6120925	3.3	6
198	Deuterium metabolic imaging (DMI) for MRI-based 3D mapping of metabolism in vivo. *Science Advances*, **2018**, 4, eaat7314	14.3	82
197	In vivo detection and automatic analysis of GABA in the mouse brain with MEGA-PRESS at 9.4 T. *NMR in Biomedicine*, **2018**, 31, e3837	4.4	7
196	Utility of Imaging-Based Biomarkers for Glutamate-Targeted Drug Development in Psychotic Disorders: A Randomized Clinical Trial. *JAMA Psychiatry*, **2018**, 75, 11-19	14.5	60
195	Selective proton-observed, carbon-edited (selPOCE) MRS method for measurement of glutamate and glutamine C-labeling in the human frontal cortex. *Magnetic Resonance in Medicine*, **2018**, 80, 11-20	4.4	17
194	Neurochemistry Predicts Convergence of Written and Spoken Language: A Proton Magnetic Resonance Spectroscopy Study of Cross-Modal Language Integration. *Frontiers in Psychology*, **2018**, 9, 1507	3.4	10
193	Trajectories of Brain Lactate and Re-visited Oxygen-Glucose Index Calculations Do Not Support Elevated Non-oxidative Metabolism of Glucose Across Childhood. *Frontiers in Neuroscience*, **2018**, 12, 631	5.1	9
192	Advances in Imaging Brain Metabolism. *Annual Review of Biomedical Engineering*, **2017**, 19, 485-515	12	29
191	Comparison of Glutamate Turnover in Nerve Terminals and Brain Tissue During [1,6-C]Glucose Metabolism in Anesthetized Rats. *Neurochemical Research*, **2017**, 42, 173-190	4.6	4
190	Non-invasive assessment of hepatic mitochondrial metabolism by positional isotopomer NMR tracer analysis (PINTA). *Nature Communications*, **2017**, 8, 798	17.4	31
189	Blunted rise in brain glucose levels during hyperglycemia in adults with obesity and T2DM. *JCI Insight*, **2017**, 2,	9.9	44
188	The human brain produces fructose from glucose. *JCI Insight*, **2017**, 2, e90508	9.9	34
187	Comparison of direct C and indirect H-[C] MR detection methods for the study of dynamic metabolic turnover in the human brain. *Journal of Magnetic Resonance*, **2017**, 283, 33-44	3	7
186	The Glycogen Shunt Maintains Glycolytic Homeostasis and the Warburg Effect in Cancer. *Trends in Cancer*, **2017**, 3, 761-767	12.5	24
185	Detection of cerebral NAD in humans at 7T. *Magnetic Resonance in Medicine*, **2017**, 78, 828-835	4.4	23
184	"What to eat or what not to eat-that is still the question" - Reply. *Neuro-Oncology*, **2017**, 19, 596-597	1	1
183	Glutamine-Glutamate Cycle Flux Is Similar in Cultured Astrocytes and Brain and Both Glutamate Production and Oxidation Are Mainly Catalyzed by Aspartate Aminotransferase. *Biology*, **2017**, 6,	4.9	27
182	Waking Up to a New Model for Studying Neural Systems: What Emergence from Unconscious States Can Reveal about Brain Organization. *Frontiers in Systems Neuroscience*, **2017**, 11, 78	3.5	3

181	Spectral Editing **2016**, 1147-1156		2
180	Glucose, Lactate, -Hydroxybutyrate, Acetate, GABA, and Succinate as Substrates for Synthesis of Glutamate and GABA in the Glutamine-Glutamate/GABA Cycle. *Advances in Neurobiology*, **2016**, 13, 9-42	2.1	34
179	Microdialysate concentration changes do not provide sufficient information to evaluate metabolic effects of lactate supplementation in brain-injured patients. *Journal of Cerebral Blood Flow and Metabolism*, **2016**, 36, 1844-1864	7.3	14
178	Hypophosphatemia promotes lower rates of muscle ATP synthesis. *FASEB Journal*, **2016**, 30, 3378-3387	0.9	45
177	Uniform distributions of glucose oxidation and oxygen extraction in gray matter of normal human brain: No evidence of regional differences of aerobic glycolysis. *Journal of Cerebral Blood Flow and Metabolism*, **2016**, 36, 903-16	7.3	53
176	Propionate Increases Hepatic Pyruvate Cycling and Anaplerosis and Alters Mitochondrial Metabolism. *Journal of Biological Chemistry*, **2016**, 291, 12161-70	5.4	40
175	Delivery of mesenchymal stem cells in biomimetic engineered scaffolds promotes healing of diabetic ulcers. *Regenerative Medicine*, **2016**, 11, 245-60	2.5	40
174	Quantitative mapping for calibrated fMRI. *NeuroImage*, **2016**, 126, 219-28	7.9	21
173	Brain region and activity-dependent properties of M for calibrated fMRI. *NeuroImage*, **2016**, 125, 848-856	7.9	21
172	Assessment of Hepatic Mitochondrial Oxidation and Pyruvate Cycling in NAFLD by (13)C Magnetic Resonance Spectroscopy. *Cell Metabolism*, **2016**, 24, 167-71	24.6	40
171	A ketogenic diet increases transport and oxidation of ketone bodies in RG2 and 9L gliomas without affecting tumor growth. *Neuro-Oncology*, **2016**, 18, 1079-87	1	49
170	Metabolic demands of neural-hemodynamic associated and disassociated areas in brain. *Journal of Cerebral Blood Flow and Metabolism*, **2016**, 36, 1695-1707	7.3	16
169	Response to burgess. *Nature Medicine*, **2015**, 21, 109-10	50.5	7
168	Superconductor Analog-to-Digital Converter for High-Resolution Magnetic Resonance Imaging. *IEEE Transactions on Applied Superconductivity*, **2015**, 25, 1-5	1.8	6
167	Effects of -Aminobutyric acid transporter 1 inhibition by tiagabine on brain glutamate and -Aminobutyric acid metabolism in the anesthetized rat In vivo. *Journal of Neuroscience Research*, **2015**, 93, 1101-8	4.4	13
166	Homeostasis and the glycogen shunt explains aerobic ethanol production in yeast. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 10902-7	11.5	19
165	High-sensitivity, broadband-decoupled (13) C MR spectroscopy in humans at 7T using two-dimensional heteronuclear single-quantum coherence. *Magnetic Resonance in Medicine*, **2015**, 74, 903-14	4.4	14
164	Direct assessment of hepatic mitochondrial oxidative and anaplerotic fluxes in humans using dynamic 13C magnetic resonance spectroscopy. *Nature Medicine*, **2014**, 20, 98-102	50.5	69

163	Insights from neuroenergetics into the interpretation of functional neuroimaging: an alternative empirical model for studying the brain's support of behavior. *Journal of Cerebral Blood Flow and Metabolism*, **2014**, 34, 1721-35	7.3	30
162	The contribution of ketone bodies to basal and activity-dependent neuronal oxidation in vivo. *Journal of Cerebral Blood Flow and Metabolism*, **2014**, 34, 1233-42	7.3	53
161	Leptin reverses diabetes by suppression of the hypothalamic-pituitary-adrenal axis. *Nature Medicine*, **2014**, 20, 759-63	50.5	142
160	Caloric restriction impedes age-related decline of mitochondrial function and neuronal activity. *Journal of Cerebral Blood Flow and Metabolism*, **2014**, 34, 1440-3	7.3	40
159	Mapping phosphorylation rate of fluoro-deoxy-glucose in rat brain by (19)F chemical shift imaging. *Magnetic Resonance Imaging*, **2014**, 32, 305-13	3.3	6
158	What have novel imaging techniques revealed about metabolism in the aging brain?. *Future Neurology*, **2014**, 9, 341-354	1.5	26
157	Carbon (13C) MRS **2014**, 312-330		
156	Basis of Magnetic Resonance **2014**, 3-14		1
155	Glutamate metabolism in major depressive disorder. *American Journal of Psychiatry*, **2014**, 171, 1320-7	11.9	109
154	Characterization of cerebral glutamine uptake from blood in the mouse brain: implications for metabolic modeling of 13C NMR data. *Journal of Cerebral Blood Flow and Metabolism*, **2014**, 34, 1666-72	7.3	24
153	Decreased occipital cortical glutamate levels in response to successful cognitive-behavioral therapy and pharmacotherapy for major depressive disorder. *Psychotherapy and Psychosomatics*, **2014**, 83, 298-307	8.4	43
152	Direct evidence for activity-dependent glucose phosphorylation in neurons with implications for the astrocyte-to-neuron lactate shuttle. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 5385-90	11.5	128
151	Increased brain lactate concentrations without increased lactate oxidation during hypoglycemia in type 1 diabetic individuals. *Diabetes*, **2013**, 62, 3075-80	0.9	33
150	Glutamatergic function in the resting awake human brain is supported by uniformly high oxidative energy. *Journal of Cerebral Blood Flow and Metabolism*, **2013**, 33, 339-47	7.3	79
149	Cortical energy demands of signaling and nonsignaling components in brain are conserved across mammalian species and activity levels. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 3549-54	11.5	127
148	Increased brain transport and metabolism of acetate in hypoglycemia unawareness. *Journal of Clinical Endocrinology and Metabolism*, **2013**, 98, 3811-20	5.6	20
147	Lactate preserves neuronal metabolism and function following antecedent recurrent hypoglycemia. *Journal of Clinical Investigation*, **2013**, 123, 1988-98	15.9	66
146	CMR02 Mapping by Calibrated fMRI. *Series in Medical Physics and Biomedical Engineering*, **2013**, 85-109		1

145	[illegible]H-[[illegible]C]-nuclear magnetic resonance spectroscopy measures of ketamine[illegible] effect on amino acid neurotransmitter metabolism. *Biological Psychiatry*, **2012**, 71, 1022-5	7.9	94
144	Quantitative fMRI and oxidative neuroenergetics. *NeuroImage*, **2012**, 62, 985-94	7.9	63
143	Is there in vivo evidence for amino acid shuttles carrying ammonia from neurons to astrocytes?. *Neurochemical Research*, **2012**, 37, 2597-612	4.6	46
142	Brain metabolomic profiles of lung cancer patients prior to treatment characterized by proton magnetic resonance spectroscopy. *International Journal of Clinical and Experimental Medicine*, **2012**, 5, 154-64		14
141	Dynamic multi-coil shimming of the human brain at 7 T. *Journal of Magnetic Resonance*, **2011**, 212, 280-8	3	99
140	State of the art direct 13C and indirect 1H-[13C] NMR spectroscopy in vivo. A practical guide. *NMR in Biomedicine*, **2011**, 24, 958-72	4.4	87
139	13C MRS studies of neuroenergetics and neurotransmitter cycling in humans. *NMR in Biomedicine*, **2011**, 24, 943-57	4.4	208
138	Role of ongoing, intrinsic activity of neuronal populations for quantitative neuroimaging of functional magnetic resonance imaging-based networks. *Brain Connectivity*, **2011**, 1, 185-93	2.7	12
137	Evidence for the importance of measuring total brain activity in neuroimaging. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 5475-6	11.5	16
136	Cortical substrate oxidation during hyperketonemia in the fasted anesthetized rat in vivo. *Journal of Cerebral Blood Flow and Metabolism*, **2011**, 31, 2313-23	7.3	22
135	Altered brain mitochondrial metabolism in healthy aging as assessed by in vivo magnetic resonance spectroscopy. *Journal of Cerebral Blood Flow and Metabolism*, **2010**, 30, 211-21	7.3	175
134	Evaluation of cerebral acetate transport and metabolic rates in the rat brain in vivo using 1H-[13C]-NMR. *Journal of Cerebral Blood Flow and Metabolism*, **2010**, 30, 1200-13	7.3	70
133	Neurovascular and Neurometabolic Couplings in Dynamic Calibrated fMRI: Transient Oxidative Neuroenergetics for Block-Design and Event-Related Paradigms. *Frontiers in Neuroenergetics*, **2010**, 2,		21
132	Neuronal correlate of BOLD signal fluctuations at rest: err on the side of the baseline. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 10773-4	11.5	32
131	The contribution of blood lactate to brain energy metabolism in humans measured by dynamic 13C nuclear magnetic resonance spectroscopy. *Journal of Neuroscience*, **2010**, 30, 13983-91	6.6	231
130	Dynamic Shimming of the Human Brain at 7 Tesla. *Concepts in Magnetic Resonance Part B*, **2010**, 37B, 116-128	2.3	57
129	Magnetic field homogenization of the human prefrontal cortex with a set of localized electrical coils. *Magnetic Resonance in Medicine*, **2010**, 63, 171-80	4.4	46
128	Baseline brain energy supports the state of consciousness. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 11096-101	11.5	113

127	Recurrent antecedent hypoglycemia alters neuronal oxidative metabolism in vivo. *Diabetes*, **2009**, 58, 1266-74	0.9	34
126	Determination of the glutamate-glutamine cycling flux using two-compartment dynamic metabolic modeling is sensitive to astroglial dilution. *Journal of Cerebral Blood Flow and Metabolism*, **2009**, 29, 108-18	7.3	26
125	Neurophysiology of functional imaging. *NeuroImage*, **2009**, 45, 1047-54	7.9	37
124	Chronic riluzole treatment increases glucose metabolism in rat prefrontal cortex and hippocampus. *Journal of Cerebral Blood Flow and Metabolism*, **2008**, 28, 1892-7	7.3	38
123	Proposed cycles for functional glutamate trafficking in synaptic neurotransmission. *Neurochemistry International*, **2008**, 52, 809-25	4.4	37
122	Dynamically shimmed multivoxel 1H magnetic resonance spectroscopy and multislice magnetic resonance spectroscopic imaging of the human brain. *Magnetic Resonance in Medicine*, **2007**, 57, 587-91	4.4	38
121	Glutamatergic and GABAergic neurotransmitter cycling and energy metabolism in rat cerebral cortex during postnatal development. *Journal of Cerebral Blood Flow and Metabolism*, **2007**, 27, 1895-907	7.3	66
120	Measurements of the anaplerotic rate in the human cerebral cortex using 13C magnetic resonance spectroscopy and [1-13C] and [2-13C] glucose. *Journal of Neurochemistry*, **2007**, 100, 73-86	6	73
119	A BOLD search for baseline. *NeuroImage*, **2007**, 36, 277-81	7.9	64
118	Increased brain monocarboxylic acid transport and utilization in type 1 diabetes. *Diabetes*, **2006**, 55, 929-34	8.9	103
117	Neuronal-glial glucose oxidation and glutamatergic-GABAergic function. *Journal of Cerebral Blood Flow and Metabolism*, **2006**, 26, 865-77	7.3	327
116	Lactate, Glycogen and Fatigue **2005**, 125-135		1
115	MRS Studies of the Role of Altered Glutamate and GABA Neurotransmitter Metabolism in the Pathophysiology of Epilepsy **2005**, 215-237		
114	Futile Cycling in Yeast: How to Control Gluttony in the Midst of Plenty **2005**, 137-148		2
113	Metabolic Networks in the Liver by 2H and 13C NMR **2005**, 159-174		1
112	Summarized Reflections on Metabolism **2005**, 175-184		
111	In Vivo NMR Spectroscopy âTechniques; Direct Detection; MRS; Kinetics and Labels; Fluxes; Concentrations **2005**, 7-29		1
110	Metabolic Control Analysis for the NMR Spectroscopist **2005**, 31-44		

109	MRS Studies of the Role of the Muscle Glycogen Synthesis Pathway in the Pathophysiology of Type 2 Diabetes **2005**, 45-57		1
108	13C NMR Studies of Heart Glycogen Metabolism **2005**, 87-102		
107	Bioenergetics Implication of Metabolic Fluctuation during Muscle Contraction **2005**, 103-123		1
106	Trehalose Energetics in Yeast Spores **2005**, 149-158		
105	NMR Studies of the Metabolism and Energetics of GABA Neurotransmitter Pathways **2005**, 99-110		
104	Regulation of Glycogen Metabolism in Muscle during Exercise **2005**, 73-86		
103	NMR Studies of Bioenergetic Impairment in Human Epilepsy **2005**, 195-213		
102	The Role of the NMR Baseline Signal in the Study of Consciousness: The Restless Brain **2005**, 311-314		
101	Phosphorylation of Allosteric Enzymes Can Serve Homeostasis rather than Control Flux: The Example of Glycogen Synthase **2005**, 59-71		2
100	Energy Metabolism in Neural Tissues in vivo at Rest and in Functionally Altered States **2005**, 11-30		3
99	Cerebral pyruvate carboxylase flux is unaltered during bicuculline-seizures. *Journal of Neuroscience Research*, **2005**, 79, 128-38	4.4	37
98	Metabolic Modeling Analysis of Brain Metabolism **2005**, 53-72		
97	Imaging Cerebral Metabolic Rate of Oxygen Consumption (CMRO2) Using 17O NMR Approach at Ultrahigh Field **2005**, 125-146		2
96	Deriving Changes in CMRO2 from Calibrated fMRI **2005**, 147-171		4
95	Long-Term Memory: Do Incremental Signals Reflect Engagement of Cognitive Processes? **2005**, 257-277		
94	TechniquesâMRS, fMRI, 13C NMR, Indirect Detection of 13C **2005**, 31-52		
93	Neural Energy Consumption and the Representation of Mental Events **2005**, 111-124		2
92	Brain and Mind: An NMR Perspective **2005**, 295-309		

91	The Role of Altered Energetics of Neurotransmitter Systems in Psychiatric Disease **2005**, 239-256		
90	Relationship between CMRO2 and Neuronal Activity **2005**, 173-194		1
89	Using fMRI to Study the Mind and Brain **2005**, 279-293		
88	Cerebral Energetics and Neurotransmitter Fluxes **2005**, 73-97		
87	The contribution of GABA to glutamate/glutamine cycling and energy metabolism in the rat cortex in vivo. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 5588-93	11.5	274
86	The intra and inter-subject reproducibility of rodent olfactory bulb activity maps measured with fMRI. *Journal of Cerebral Blood Flow and Metabolism*, **2005**, 25, S336-S336	7.3	
85	High resolution measurements of neuronal activity, cerebral blood flow, and fMRI during spike-wave seizures in WAG/Rij rats. *Journal of Cerebral Blood Flow and Metabolism*, **2005**, 25, S409-S409	7.3	
84	Protein phosphorylation can regulate metabolite concentrations rather than control flux: the example of glycogen synthase. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 1485-90	11.5	20
83	Subtype-specific alterations of gamma-aminobutyric acid and glutamate in patients with major depression. *Archives of General Psychiatry*, **2004**, 61, 705-13		608
82	Regional glucose metabolism and glutamatergic neurotransmission in rat brain in vivo. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 12700-5	11.5	83
81	Dynamic fMRI and EEG recordings during spike-wave seizures and generalized tonic-clonic seizures in WAG/Rij rats. *Journal of Cerebral Blood Flow and Metabolism*, **2004**, 24, 589-99	7.3	139
80	Glutamatergic neurotransmission and neuronal glucose oxidation are coupled during intense neuronal activation. *Journal of Cerebral Blood Flow and Metabolism*, **2004**, 24, 972-85	7.3	129
79	Basic principles of metabolic modeling of NMR (13)C isotopic turnover to determine rates of brain metabolism in vivo. *Metabolic Engineering*, **2004**, 6, 75-84	9.7	44
78	Energetic basis of brain activity: implications for neuroimaging. *Trends in Neurosciences*, **2004**, 27, 489-95	13.3	407
77	Odor maps of aldehydes and esters revealed by functional MRI in the glomerular layer of the mouse olfactory bulb. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 11029-34	11.5	165
76	Detection of [1,6-13C2]-glucose metabolism in rat brain by in vivo 1H-[13C]-NMR spectroscopy. *Magnetic Resonance in Medicine*, **2003**, 49, 37-46	4.4	80
75	Dynamic shim updating (DSU) for multislice signal acquisition. *Magnetic Resonance in Medicine*, **2003**, 49, 409-16	4.4	66
74	Magnetic resonance spectroscopy of neurotransmitters in human brain. *Annals of Neurology*, **2003**, 54 Suppl 6, S25-31	9.4	111

73	A comparison of (13)C NMR measurements of the rates of glutamine synthesis and the tricarboxylic acid cycle during oral and intravenous administration of [1-(13)C]glucose. *Brain Research Protocols*, **2003**, 10, 181-90		60
72	Cerebral metabolism and consciousness. *Comptes Rendus - Biologies*, **2003**, 326, 253-73	1.4	42
71	In vivo NMR studies of the glutamate neurotransmitter flux and neuroenergetics: implications for brain function. *Annual Review of Physiology*, **2003**, 65, 401-27	23.1	269
70	In vivo GABA editing using a novel doubly selective multiple quantum filter. *Magnetic Resonance in Medicine*, **2002**, 47, 447-54	4.4	53
69	Glutamate-glutamine cycling in the epileptic human hippocampus. *Epilepsia*, **2002**, 43, 703-10	6.4	160
68	Graded image segmentation of brain tissue in the presence of inhomogeneous radio frequency fields. *Magnetic Resonance Imaging*, **2002**, 20, 431-6	3.3	15
67	[2,4-13 C2]-beta-Hydroxybutyrate metabolism in human brain. *Journal of Cerebral Blood Flow and Metabolism*, **2002**, 22, 890-8	7.3	64
66	Total neuroenergetics support localized brain activity: implications for the interpretation of fMRI. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 10771-6	11.5	175
65	Cortical gamma-aminobutyric acid levels across the menstrual cycle in healthy women and those with premenstrual dysphoric disorder: a proton magnetic resonance spectroscopy study. *Archives of General Psychiatry*, **2002**, 59, 851-8		282
64	Cerebral energetics and spiking frequency: the neurophysiological basis of fMRI. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 10765-70	11.5	285
63	Windows on the working brain: magnetic resonance spectroscopy **2002**, 146-159		
62	Biophysical basis of brain activity: implications for neuroimaging. *Quarterly Reviews of Biophysics*, **2002**, 35, 287-325	7	64
61	Astroglial contribution to brain energy metabolism in humans revealed by 13C nuclear magnetic resonance spectroscopy: elucidation of the dominant pathway for neurotransmitter glutamate repletion and measurement of astrocytic oxidative metabolism. *Journal of Neuroscience*, **2002**, 22, 1523-31	6.6	304
60	In vivo (13)C NMR measurement of neurotransmitter glutamate cycling, anaplerosis and TCA cycle flux in rat brain during. *Journal of Neurochemistry*, **2001**, 76, 975-89	6	199
59	Topiramate rapidly raises brain GABA in epilepsy patients. *Epilepsia*, **2001**, 42, 543-8	6.4	69
58	Studies of metabolic compartmentation and glucose transport using in vivo MRS. *NMR in Biomedicine*, **2001**, 14, 149-60	4.4	15
57	Quantitative functional imaging of the brain: towards mapping neuronal activity by BOLD fMRI. *NMR in Biomedicine*, **2001**, 14, 413-31	4.4	172
56	Lactate efflux and the neuroenergetic basis of brain function. *NMR in Biomedicine*, **2001**, 14, 389-96	4.4	105

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