

Rolf Gruetter

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

322 papers	18,880 citations	73 h-index	125 g-index
331 ext. papers	21,165 ext. citations	5.2 avg, IF	6.81 L-index

#	Paper	IF	Citations
322	In vivo 1H NMR spectroscopy of rat brain at 1 ms echo time. <i>Magnetic Resonance in Medicine</i> , 1999 , 41, 649-56	4.4	752
321	Automatic, localized in vivo adjustment of all first- and second-order shim coils. <i>Magnetic Resonance in Medicine</i> , 1993 , 29, 804-11	4.4	747
320	MP2RAGE, a self bias-field corrected sequence for improved segmentation and T1-mapping at high field. <i>NeuroImage</i> , 2010 , 49, 1271-81	7.9	709
319	Field mapping without reference scan using asymmetric echo-planar techniques. <i>Magnetic Resonance in Medicine</i> , 2000 , 43, 319-23	4.4	439
318	Toward an in vivo neurochemical profile: quantification of 18 metabolites in short-echo-time (1)H NMR spectra of the rat brain. <i>Journal of Magnetic Resonance</i> , 1999 , 141, 104-20	3	423
317	Clinical proton MR spectroscopy in central nervous system disorders. <i>Radiology</i> , 2014 , 270, 658-79	20.5	381
316	Echo-planar magnetic resonance imaging studies of frontal cortex activation during word generation in humans. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1993 , 90, 4952-6	11.5	369
315	In vivo 1H NMR spectroscopy of the human brain at 7 T. <i>Magnetic Resonance in Medicine</i> , 2001 , 46, 451-64	4.4	303
314	Simultaneous determination of the rates of the TCA cycle, glucose utilization, alpha-ketoglutarate/glutamate exchange, and glutamine synthesis in human brain by NMR. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1995 , 15, 12-25	7.3	283
313	In vivo 1H NMR spectroscopy of the human brain at high magnetic fields: metabolite quantification at 4T vs. 7T. <i>Magnetic Resonance in Medicine</i> , 2009 , 62, 868-79	4.4	268
312	A mathematical model of compartmentalized neurotransmitter metabolism in the human brain. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2001 , 281, E100-12	6	262
311	MR spectroscopy of the human brain with enhanced signal intensity at ultrashort echo times on a clinical platform at 3T and 7T. <i>Magnetic Resonance in Medicine</i> , 2009 , 61, 1279-85	4.4	247
310	Sustained neuronal activation raises oxidative metabolism to a new steady-state level: evidence from 1H NMR spectroscopy in the human visual cortex. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2007 , 27, 1055-63	7.3	219
309	Localized short-echo-time proton MR spectroscopy with full signal-intensity acquisition. <i>Magnetic Resonance in Medicine</i> , 2006 , 56, 965-70	4.4	214
308	Temperature and SAR calculations for a human head within volume and surface coils at 64 and 300 MHz. <i>Journal of Magnetic Resonance Imaging</i> , 2004 , 19, 650-6	5.6	202
307	Localized 13C NMR spectroscopy in the human brain of amino acid labeling from D-[1-13C]glucose. <i>Journal of Neurochemistry</i> , 1994 , 63, 1377-85	6	202
306	Ultrahigh field magnetic resonance imaging and spectroscopy. <i>Magnetic Resonance Imaging</i> , 2003 , 21, 1263-81	3.3	199

305	Neuroglial metabolism in the awake rat brain: CO ₂ fixation increases with brain activity. <i>Journal of Neuroscience</i> , 2004 , 24, 11273-9	6.6	192
304	Direct measurement of brain glucose concentrations in humans by ¹³ C NMR spectroscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1992 , 89, 1109-12	11.5	178
303	Developmental and regional changes in the neurochemical profile of the rat brain determined by in vivo ¹ H NMR spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2003 , 50, 24-32	4.4	175
302	Localized in vivo ¹³ C-NMR of glutamate metabolism in the human brain: initial results at 4 tesla. <i>Developmental Neuroscience</i> , 1998 , 20, 380-8	2.2	175
301	Perinatal iron deficiency alters the neurochemical profile of the developing rat hippocampus. <i>Journal of Nutrition</i> , 2003 , 133, 3215-21	4.1	174
300	Effect of hypoglycemia on brain glycogen metabolism in vivo. <i>Journal of Neuroscience Research</i> , 2003 , 72, 25-32	4.4	174
299	Steady-state cerebral glucose concentrations and transport in the human brain. <i>Journal of Neurochemistry</i> , 1998 , 70, 397-408	6	173
298	Resolution improvements in in vivo ¹ H NMR spectra with increased magnetic field strength. <i>Journal of Magnetic Resonance</i> , 1998 , 135, 260-4	3	161
297	Highly resolved in vivo ¹ H NMR spectroscopy of the mouse brain at 9.4 T. <i>Magnetic Resonance in Medicine</i> , 2004 , 52, 478-84	4.4	160
296	Neuroprotective role of lactate after cerebral ischemia. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2009 , 29, 1780-9	7.3	159
295	Glycogen: the forgotten cerebral energy store. <i>Journal of Neuroscience Research</i> , 2003 , 74, 179-83	4.4	159
294	The neurochemical profile quantified by in vivo ¹ H NMR spectroscopy. <i>NeuroImage</i> , 2012 , 61, 342-62	7.9	157
293	Design and performance of a DNP prepolarizer coupled to a rodent MRI scanner. <i>Concepts in Magnetic Resonance Part B</i> , 2007 , 31B, 255-269	2.3	156
292	A half-volume coil for efficient proton decoupling in humans at 4 tesla. <i>Journal of Magnetic Resonance</i> , 1997 , 125, 178-84	3	150
291	The effect of insulin on in vivo cerebral glucose concentrations and rates of glucose transport/metabolism in humans. <i>Diabetes</i> , 2001 , 50, 2203-9	0.9	145
290	Measurement of reduced glutathione (GSH) in human brain using LCModel analysis of difference-edited spectra. <i>Magnetic Resonance in Medicine</i> , 2003 , 50, 19-23	4.4	144
289	Localized in vivo ¹³ C NMR spectroscopy of the brain. <i>NMR in Biomedicine</i> , 2003 , 16, 313-38	4.4	143
288	Methodology of ¹ H NMR Spectroscopy of the Human Brain at Very High Magnetic Fields. <i>Applied Magnetic Resonance</i> , 2005 , 29, 139-157	0.8	140

287	Methodological consensus on clinical proton MRS of the brain: Review and recommendations. <i>Magnetic Resonance in Medicine</i> , 2019 , 82, 527-550	4.4	134
286	Extracellular-intracellular distribution of glucose and lactate in the rat brain assessed noninvasively by diffusion-weighted ¹ H nuclear magnetic resonance spectroscopy in vivo. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2000 , 20, 736-46	7.3	126
285	Human finger somatotopy in areas 3b, 1, and 2: a 7T fMRI study using a natural stimulus. <i>Human Brain Mapping</i> , 2014 , 35, 213-26	5.9	122
284	In vivo measurements of brain glucose transport using the reversible Michaelis-Menten model and simultaneous measurements of cerebral blood flow changes during hypoglycemia. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2001 , 21, 653-63	7.3	122
283	Direct in vivo measurement of human cerebral GABA concentration using MEGA-editing at 7 Tesla. <i>Magnetic Resonance in Medicine</i> , 2002 , 47, 1009-12	4.4	120
282	Caffeine consumption attenuates neurochemical modifications in the hippocampus of streptozotocin-induced diabetic rats. <i>Journal of Neurochemistry</i> , 2009 , 111, 368-79	6	119
281	Effect of deep pentobarbital anesthesia on neurotransmitter metabolism in vivo: on the correlation of total glucose consumption with glutamatergic action. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2002 , 22, 1343-51	7.3	114
280	Study of tricarboxylic acid cycle flux changes in human visual cortex during hemifield visual stimulation using (1)H-[(13)C] MRS and fMRI. <i>Magnetic Resonance in Medicine</i> , 2001 , 45, 349-55	4.4	106
279	In vivo ¹³ C NMR studies of compartmentalized cerebral carbohydrate metabolism. <i>Neurochemistry International</i> , 2002 , 41, 143-54	4.4	105
278	Hierarchical Status Predicts Behavioral Vulnerability and Nucleus Accumbens Metabolic Profile Following Chronic Social Defeat Stress. <i>Current Biology</i> , 2017 , 27, 2202-2210.e4	6.3	104
277	Localized in vivo ¹ H NMR detection of neurotransmitter labeling in rat brain during infusion of [1- ¹³ C] D-glucose. <i>Magnetic Resonance in Medicine</i> , 1999 , 41, 1077-83	4.4	101
276	On the origin of the MR image phase contrast: an in vivo MR microscopy study of the rat brain at 14.1 T. <i>NeuroImage</i> , 2009 , 46, 345-52	7.9	100
275	Human brain glycogen content and metabolism: implications on its role in brain energy metabolism. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2007 , 292, E946-51	6	98
274	Sensitivity of single-voxel ¹ H-MRS in investigating the metabolism of the activated human visual cortex at 7 T. <i>Magnetic Resonance Imaging</i> , 2006 , 24, 343-8	3.3	98
273	New developments and applications of the MP2RAGE sequence--focusing the contrast and high spatial resolution R1 mapping. <i>PLoS ONE</i> , 2013 , 8, e69294	3.7	96
272	Proton NMR of (15)N-choline metabolites enhanced by dynamic nuclear polarization. <i>Journal of the American Chemical Society</i> , 2009 , 131, 16014-5	16.4	95
271	Temporal and spatial analysis of fields generated by eddy currents in superconducting magnets: optimization of corrections and quantitative characterization of magnet/gradient systems. <i>Magnetic Resonance in Medicine</i> , 1991 , 20, 268-84	4.4	94
270	¹ H NMR spectroscopy of rat brain in vivo at 14.1Tesla: improvements in quantification of the neurochemical profile. <i>Journal of Magnetic Resonance</i> , 2008 , 194, 163-8	3	93

269	Hepatic glucose sensing is required to preserve cell glucose competence. <i>Journal of Clinical Investigation</i> , 2013 , 123, 1662-76	15.9	90
268	Neurochemical changes in Huntington R6/2 mouse striatum detected by in vivo ¹ H NMR spectroscopy. <i>Journal of Neurochemistry</i> , 2007 , 100, 1397-406	6	89
267	In vivo ¹³ C NMR spectroscopy and metabolic modeling in the brain: a practical perspective. <i>Magnetic Resonance Imaging</i> , 2006 , 24, 527-39	3.3	89
266	Proton MRS of the unilateral substantia nigra in the human brain at 4 tesla: detection of high GABA concentrations. <i>Magnetic Resonance in Medicine</i> , 2006 , 55, 296-301	4.4	88
265	Net increase of lactate and glutamate concentration in activated human visual cortex detected with magnetic resonance spectroscopy at 7 tesla. <i>Journal of Neuroscience Research</i> , 2013 , 91, 1076-83	4.4	87
264	Noninvasive measurements of [1-(¹³ C)]glycogen concentrations and metabolism in rat brain in vivo. <i>Journal of Neurochemistry</i> , 1999 , 73, 1300-8	6	86
263	N-acetylcysteine in a Double-Blind Randomized Placebo-Controlled Trial: Toward Biomarker-Guided Treatment in Early Psychosis. <i>Schizophrenia Bulletin</i> , 2018 , 44, 317-327	1.3	83
262	Feasibility of in vivo ¹⁵ N MRS detection of hyperpolarized ¹⁵ N labeled choline in rats. <i>Physical Chemistry Chemical Physics</i> , 2010 , 12, 5818-23	3.6	81
261	Validation of glutathione quantitation from STEAM spectra against edited ¹ H NMR spectroscopy at 4T: application to schizophrenia. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2005 , 18, 276-82	2.8	81
260	Observation of resolved glucose signals in ¹ H NMR spectra of the human brain at 4 Tesla. <i>Magnetic Resonance in Medicine</i> , 1996 , 36, 1-6	4.4	81
259	¹ H NMR studies of glucose transport in the human brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1996 , 16, 427-38	7.3	81
258	N-acetylcysteine normalizes neurochemical changes in the glutathione-deficient schizophrenia mouse model during development. <i>Biological Psychiatry</i> , 2012 , 71, 1006-14	7.9	80
257	Scavenging free radicals to preserve enhancement and extend relaxation times in NMR using dynamic nuclear polarization. <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 6182-5	16.4	80
256	Brain glucose concentrations in patients with type 1 diabetes and hypoglycemia unawareness. <i>Journal of Neuroscience Research</i> , 2005 , 79, 42-7	4.4	80
255	F44. AN ADD-ON TRIAL WITH N-ACETYL-CYSTEINE (NAC) IN EARLY PSYCHOSIS PATIENTS: TOWARDS BIOMARKER GUIDED TREATMENT. <i>Schizophrenia Bulletin</i> , 2018 , 44, S236-S236	1.3	78
254	Direct, noninvasive measurement of brain glycogen metabolism in humans. <i>Neurochemistry International</i> , 2003 , 43, 323-9	4.4	78
253	Magnetic resonance studies of brain function and neurochemistry. <i>Annual Review of Biomedical Engineering</i> , 2000 , 2, 633-60	12	78
252	Evolution of the neurochemical profile after transient focal cerebral ischemia in the mouse brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2009 , 29, 811-9	7.3	75

251	Broadband decoupled, 1H-localized 13C MRS of the human brain at 4 Tesla. <i>Magnetic Resonance in Medicine</i> , 1996 , 36, 659-64	4.4	74
250	Retrospective correction of involuntary microscopic head movement using highly accelerated fat image navigators (3D FatNavs) at 7T. <i>Magnetic Resonance in Medicine</i> , 2016 , 75, 1030-9	4.4	74
249	Glutathione deficit impairs myelin maturation: relevance for white matter integrity in schizophrenia patients. <i>Molecular Psychiatry</i> , 2015 , 20, 827-38	15.1	73
248	In vivo 13C NMR assessment of brain glycogen concentration and turnover in the awake rat. <i>Neurochemistry International</i> , 2003 , 43, 317-22	4.4	73
247	Capturing the spatiotemporal dynamics of self-generated, task-initiated thoughts with EEG and fMRI. <i>NeuroImage</i> , 2019 , 194, 82-92	7.9	72
246	In vivo magnetic resonance spectroscopy of human brain: the biophysical basis of dementia. <i>Biophysical Chemistry</i> , 1997 , 68, 161-72	3.5	72
245	Are glutamate and lactate increases ubiquitous to physiological activation? A (1)H functional MR spectroscopy study during motor activation in human brain at 7Tesla. <i>NeuroImage</i> , 2014 , 93 Pt 1, 138-45	7.9	70
244	In vivo assessment of myelination by phase imaging at high magnetic field. <i>NeuroImage</i> , 2012 , 59, 1979-87	7.9	69
243	Handling macromolecule signals in the quantification of the neurochemical profile. <i>Journal of Alzheimer's Disease</i> , 2012 , 31 Suppl 3, S101-15	4.3	69
242	Detection of an antioxidant profile in the human brain in vivo via double editing with MEGA-PRESS. <i>Magnetic Resonance in Medicine</i> , 2006 , 56, 1192-9	4.4	68
241	Toward dynamic isotopomer analysis in the rat brain in vivo: automatic quantitation of 13C NMR spectra using LCModel. <i>NMR in Biomedicine</i> , 2003 , 16, 400-12	4.4	67
240	Marker-independent identification of glioma-initiating cells. <i>Nature Methods</i> , 2010 , 7, 224-8	21.6	66
239	1H-localized broadband 13C NMR spectroscopy of the rat brain in vivo at 9.4 T. <i>Magnetic Resonance in Medicine</i> , 2003 , 50, 684-92	4.4	66
238	Spread spectrum magnetic resonance imaging. <i>IEEE Transactions on Medical Imaging</i> , 2012 , 31, 586-98	11.7	65
237	In vivo detection of brain Krebs cycle intermediate by hyperpolarized magnetic resonance. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012 , 32, 2108-13	7.3	64
236	Compartmentalized Cerebral Metabolism of [1,6-(13)C]Glucose Determined by in vivo (13)C NMR Spectroscopy at 14.1 T. <i>Frontiers in Neuroenergetics</i> , 2011 , 3, 3		63
235	Quantitative proton spectroscopic imaging of the neurochemical profile in rat brain with microliter resolution at ultra-short echo times. <i>Magnetic Resonance in Medicine</i> , 2008 , 59, 52-8	4.4	63
234	Proton T2 relaxation time of J-coupled cerebral metabolites in rat brain at 9.4 T. <i>NMR in Biomedicine</i> , 2008 , 21, 396-401	4.4	63

233	Unedited in vivo detection and quantification of γ -aminobutyric acid in the occipital cortex using short-TE MRS at 3 T. <i>NMR in Biomedicine</i> , 2013 , 26, 1353-62	4.4	62
232	Single-shot, three-dimensional "non-echo" localization method for in vivo NMR spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2000 , 44, 387-94	4.4	62
231	Genetic Polymorphism Associated Prefrontal Glutathione and Its Coupling With Brain Glutamate and Peripheral Redox Status in Early Psychosis. <i>Schizophrenia Bulletin</i> , 2016 , 42, 1185-96	1.3	62
230	Longitudinal neurochemical modifications in the aging mouse brain measured in vivo by ^1H magnetic resonance spectroscopy. <i>Neurobiology of Aging</i> , 2014 , 35, 1660-8	5.6	61
229	Proton T1 relaxation times of metabolites in human occipital white and gray matter at 7 T. <i>Magnetic Resonance in Medicine</i> , 2013 , 69, 931-6	4.4	61
228	MP2RAGE multiple sclerosis magnetic resonance imaging at 3 T. <i>Investigative Radiology</i> , 2012 , 47, 346-52	10.1	60
227	In vivo effect of chronic hypoxia on the neurochemical profile of the developing rat hippocampus. <i>Developmental Brain Research</i> , 2005 , 156, 202-9		60
226	Validation of ^{13}C NMR measurements of liver glycogen in vivo. <i>Magnetic Resonance in Medicine</i> , 1994 , 31, 583-8	4.4	60
225	In vivo enzymatic activity of acetylCoA synthetase in skeletal muscle revealed by (^{13}C) turnover from hyperpolarized $[1-(^{13}\text{C})]$ acetate to $[1-(^{13}\text{C})]$ acetylcarnitine. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2013 , 1830, 4171-8	4	59
224	Studying cyto and myeloarchitecture of the human cortex at ultra-high field with quantitative imaging: R, R and magnetic susceptibility. <i>NeuroImage</i> , 2017 , 147, 152-163	7.9	58
223	Glutamatergic and GABAergic energy metabolism measured in the rat brain by (^{13}C) NMR spectroscopy at 14.1 T. <i>Journal of Neurochemistry</i> , 2013 , 126, 579-90	6	58
222	Cerebellar cortical layers: in vivo visualization with structural high-field-strength MR imaging. <i>Radiology</i> , 2010 , 254, 942-8	20.5	56
221	Temporal SNR characteristics in segmented 3D-EPI at 7T. <i>Magnetic Resonance in Medicine</i> , 2012 , 67, 344-52	4.4	55
220	Localized eddy current compensation using quantitative field mapping. <i>Journal of Magnetic Resonance</i> , 1998 , 131, 139-43	3	55
219	^1H NMR detection of vitamin C in human brain in vivo. <i>Magnetic Resonance in Medicine</i> , 2004 , 51, 225-9	4.4	54
218	Prospective and retrospective motion correction in diffusion magnetic resonance imaging of the human brain. <i>NeuroImage</i> , 2012 , 59, 389-98	7.9	51
217	Dynamics of lactate concentration and blood oxygen level-dependent effect in the human visual cortex during repeated identical stimuli. <i>Journal of Neuroscience Research</i> , 2007 , 85, 3340-6	4.4	51
216	^{13}C NMR visibility of rabbit muscle glycogen in vivo. <i>Magnetic Resonance in Medicine</i> , 1991 , 20, 327-32	4.4	50

215	Variations in the in vivo P-31 MR spectra of the developing human brain during postnatal life. Work in progress. <i>Radiology</i> , 1989 , 172, 197-9	20.5	50
214	SA2RAGE: a new sequence for fast B1+ -mapping. <i>Magnetic Resonance in Medicine</i> , 2012 , 67, 1609-19	4.4	49
213	Metabolic changes in quinolinic acid-lesioned rat striatum detected non-invasively by in vivo (1)H NMR spectroscopy. <i>Journal of Neuroscience Research</i> , 2001 , 66, 891-8	4.4	49
212	Hyperpolarized lithium-6 as a sensor of nanomolar contrast agents. <i>Magnetic Resonance in Medicine</i> , 2009 , 61, 1489-93	4.4	47
211	Proton-observed carbon-edited NMR spectroscopy in strongly coupled second-order spin systems. <i>Magnetic Resonance in Medicine</i> , 2006 , 55, 250-7	4.4	47
210	Detection and assignment of the glucose signal in 1H NMR difference spectra of the human brain. <i>Magnetic Resonance in Medicine</i> , 1992 , 27, 183-8	4.4	47
209	Localized 13C NMR spectroscopy of myo-inositol in the human brain in vivo. <i>Magnetic Resonance in Medicine</i> , 1992 , 25, 204-10	4.4	46
208	Simultaneous EEG-fMRI at ultra-high field: artifact prevention and safety assessment. <i>NeuroImage</i> , 2015 , 105, 132-44	7.9	45
207	Neurochemical profile of the developing mouse cortex determined by in vivo 1H NMR spectroscopy at 14.1 T and the effect of recurrent anaesthesia. <i>Journal of Neurochemistry</i> , 2010 , 115, 1466-77	6	44
206	Brain energy metabolism and neurotransmission at near-freezing temperatures: in vivo (1)H MRS study of a hibernating mammal. <i>Journal of Neurochemistry</i> , 2007 , 101, 1505-15	6	44
205	Towards high-quality simultaneous EEG-fMRI at 7 T: Detection and reduction of EEG artifacts due to head motion. <i>NeuroImage</i> , 2015 , 120, 143-53	7.9	42
204	Is the macromolecule signal tissue-specific in healthy human brain? A (1)H MRS study at 7 Tesla in the occipital lobe. <i>Magnetic Resonance in Medicine</i> , 2014 , 72, 934-40	4.4	42
203	Image-derived input function from the vena cava for 18F-FDG PET studies in rats and mice. <i>Journal of Nuclear Medicine</i> , 2014 , 55, 1380-8	8.9	41
202	Deletion of glutamate dehydrogenase 1 (GluD1) in the central nervous system affects glutamate handling without altering synaptic transmission. <i>Journal of Neurochemistry</i> , 2012 , 123, 342-8	6	41
201	GDH-Dependent Glutamate Oxidation in the Brain Dictates Peripheral Energy Substrate Distribution. <i>Cell Reports</i> , 2015 , 13, 365-75	10.6	40
200	A modulated closed form solution for quantitative susceptibility mapping--a thorough evaluation and comparison to iterative methods based on edge prior knowledge. <i>NeuroImage</i> , 2015 , 107, 163-174	7.9	40
199	Metabolic Flux and Compartmentation Analysis in the Brain In vivo. <i>Frontiers in Endocrinology</i> , 2013 , 4, 156	5.7	40
198	Head motion detection using FID navigators. <i>Magnetic Resonance in Medicine</i> , 2011 , 66, 135-43	4.4	40

197	An improved trap design for decoupling multinuclear RF coils. <i>Magnetic Resonance in Medicine</i> , 2014 , 72, 584-90	4.4	39
196	Dynamic or inert metabolism? Turnover of N-acetyl aspartate and glutathione from D-[1-13C]glucose in the rat brain in vivo. <i>Journal of Neurochemistry</i> , 2004 , 91, 778-87	6	39
195	Contribution of macromolecules to brain H MR spectra: ExpertsQconsensus recommendations. <i>NMR in Biomedicine</i> , 2021 , 34, e4393	4.4	39
194	Comparison of T1 relaxation times of the neurochemical profile in rat brain at 9.4 tesla and 14.1 tesla. <i>Magnetic Resonance in Medicine</i> , 2009 , 62, 862-7	4.4	38
193	Identification of a high concentration of scyllo-inositol in the brain of a healthy human subject using 1H- and 13C-NMR. <i>Magnetic Resonance in Medicine</i> , 1998 , 39, 313-6	4.4	38
192	Biochemical quantification of total brain glycogen concentration in rats under different glycemic states. <i>Neurochemistry International</i> , 2006 , 48, 616-22	4.4	38
191	Three-dimensional echo planar imaging with controlled aliasing: A sequence for high temporal resolution functional MRI. <i>Magnetic Resonance in Medicine</i> , 2016 , 75, 2350-61	4.4	37
190	Compartmentalised energy metabolism supporting glutamatergic neurotransmission in response to increased activity in the rat cerebral cortex: A 13C MRS study in vivo at 14.1 T. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2016 , 36, 928-40	7.3	37
189	How Energy Metabolism Supports Cerebral Function: Insights from C Magnetic Resonance Studies. <i>Frontiers in Neuroscience</i> , 2017 , 11, 288	5.1	37
188	High-resolution magnetic resonance imaging quantitatively detects individual pancreatic islets. <i>Diabetes</i> , 2011 , 60, 2853-60	0.9	37
187	Principles of Operation of a DNP Prepolarizer Coupled to a Rodent MRI Scanner. <i>Applied Magnetic Resonance</i> , 2008 , 34, 313-319	0.8	37
186	Brain glucose concentrations in poorly controlled diabetes mellitus as measured by high-field magnetic resonance spectroscopy. <i>Metabolism: Clinical and Experimental</i> , 2005 , 54, 1008-13	12.7	37
185	Whole-brain glutamate metabolism evaluated by steady-state kinetics using a double-isotope procedure: effects of gabapentin. <i>Journal of Neurochemistry</i> , 2004 , 90, 1104-16	6	37
184	Water diffusion in rat brain in vivo as detected at very large b values is multicompartamental. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 1999 , 8, 98-108	2.8	37
183	Effect of Deep Pentobarbital Anesthesia on Neurotransmitter Metabolism In Vivo: On the Correlation of Total Glucose Consumption With Glutamatergic Action. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2002 , 1343-1351	7.3	37
182	Digit somatotopy in the human cerebellum: a 7T fMRI study. <i>NeuroImage</i> , 2013 , 67, 354-62	7.9	36
181	Measuring glucose cerebral metabolism in the healthy mouse using hyperpolarized C magnetic resonance. <i>Scientific Reports</i> , 2017 , 7, 11719	4.9	36
180	Developmental and metabolic brain alterations in rats exposed to bisphenol A during gestation and lactation. <i>International Journal of Developmental Neuroscience</i> , 2011 , 29, 37-43	2.7	36

179	Cerebral glutamine metabolism under hyperammonemia determined in vivo by localized (1)H and (15)N NMR spectroscopy. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012 , 32, 696-708	7.3	36
178	Quantification of the neurochemical profile using simulated macromolecule resonances at 3 T. <i>NMR in Biomedicine</i> , 2013 , 26, 593-9	4.4	35
177	In vivo measurement of glycine with short echo-time 1H MRS in human brain at 7 T. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2009 , 22, 1-4	2.8	35
176	Astrocytic and neuronal oxidative metabolism are coupled to the rate of glutamate-glutamine cycle in the tree shrew visual cortex. <i>Glia</i> , 2018 , 66, 477-491	9	35
175	Brain lactate by magnetic resonance spectroscopy during fulminant hepatic failure in the dog. <i>Liver Transplantation</i> , 1998 , 4, 158-65		34
174	Perinatal iron deficiency predisposes the developing rat hippocampus to greater injury from mild to moderate hypoxia-ischemia. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2007 , 27, 729-40	7.3	34
173	Effect of chronic hypoglycaemia on glucose concentration and glycogen content in rat brain: A localized 13C NMR study. <i>Journal of Neurochemistry</i> , 2006 , 99, 260-8	6	34
172	Nutritional Ketosis Increases NAD/NADH Ratio in Healthy Human Brain: An Study by P-MRS. <i>Frontiers in Nutrition</i> , 2018 , 5, 62	6.2	33
171	Characterization of cerebral glucose dynamics in vivo with a four-state conformational model of transport at the blood-brain barrier. <i>Journal of Neurochemistry</i> , 2012 , 121, 396-406	6	33
170	Early predictive biomarkers for lesion after transient cerebral ischemia. <i>Stroke</i> , 2011 , 42, 799-805	6.7	33
169	The C57BL/6J mouse exhibits sporadic congenital portosystemic shunts. <i>PLoS ONE</i> , 2013 , 8, e69782	3.7	32
168	Where sound position influences sound object representations: a 7-T fMRI study. <i>NeuroImage</i> , 2011 , 54, 1803-11	7.9	32
167	Detecting natural abundance carbon signal of NAA metabolite within 12-cm ³ localized volume of human brain using 1H-[13C] NMR spectroscopy. <i>Magnetic Resonance in Medicine</i> , 1998 , 40, 180-4	4.4	32
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11	Capturing the spatiotemporal dynamics of task-initiated thoughts with combined EEG and fMRI		1
10	Nucleus accumbens neurochemistry in human anxiety: A 7 T 1H-MRS study		1
9	PIRACY: An Optimized Pipeline for Functional Connectivity Analysis in the Rat Brain. <i>Frontiers in Neuroscience</i> , 2021 , 15, 602170	5.1	1
8	Radical-free hyperpolarized MRI using endogenously occurring pyruvate analogues and UV-induced nonpersistent radicals. <i>NMR in Biomedicine</i> , 2021 , 34, e4584	4.4	1
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6	In-Vivo NMR Spectroscopy of the Brain at High Fields 2006 , 373-409		1
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4	Metabolic and perfusion responses to acute hypoglycemia in the rat cortex: A non-invasive magnetic resonance approach. <i>Journal of Neurochemistry</i> , 2020 , 154, 71-83	6	0
3	Evaluation of the whole auditory pathway using high-resolution and functional MRI at 7T parallel-transmit. <i>PLoS ONE</i> , 2021 , 16, e0254378	3.7	0
2	Measurements of Glycogen Metabolism in the Living Brain. <i>Advances in Neurobiology</i> , 2012 , 699-706	2.1	
1	Improved off-resonance phase behavior using a phase-inverted adiabatic half-passage pulse for C MRS in humans at 7 T. <i>NMR in Biomedicine</i> , 2019 , 32, e4171	4.4	