

# Kevin M Brindle

## List of Publications by Year in descending order

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151  
papers

14,914  
citations

30070

54  
h-index

19190

118  
g-index

156  
all docs

156  
docs citations

156  
times ranked

16170  
citing authors

#	ARTICLE	IF	CITATIONS
1	A functional genomics strategy that uses metabolome data to reveal the phenotype of silent mutations. <i>Nature Biotechnology</i> , 2001, 19, 45-50.	17.5	948
2	The return of metabolism: biochemistry and physiology of the pentose phosphate pathway. <i>Biological Reviews</i> , 2015, 90, 927-963.	10.4	908
3	Detecting tumor response to treatment using hyperpolarized <sup>13</sup> C magnetic resonance imaging and spectroscopy. <i>Nature Medicine</i> , 2007, 13, 1382-1387.	30.7	825
4	Magnetic resonance imaging of pH in vivo using hyperpolarized <sup>13</sup> C-labelled bicarbonate. <i>Nature</i> , 2008, 453, 940-943.	27.8	796
5	Enhanced detection of circulating tumor DNA by fragment size analysis. <i>Science Translational Medicine</i> , 2018, 10, .	12.4	670
6	Analysis of Cancer Metabolism by Imaging Hyperpolarized Nuclei: Prospects for Translation to Clinical Research. <i>Neoplasia</i> , 2011, 13, 81-97.	5.3	623
7	Challenges to curing primary brain tumours. <i>Nature Reviews Clinical Oncology</i> , 2019, 16, 509-520.	27.6	540
8	Clinical Proton MR Spectroscopy in Central Nervous System Disorders. <i>Radiology</i> , 2014, 270, 658-679.	7.3	524
9	Non-invasive detection of apoptosis using magnetic resonance imaging and a targeted contrast agent. <i>Nature Medicine</i> , 2001, 7, 1241-1244.	30.7	513
10	New approaches for imaging tumour responses to treatment. <i>Nature Reviews Cancer</i> , 2008, 8, 94-107.	28.4	413
11	Production of hyperpolarized [1,4- <sup>13</sup> C <sub>2</sub> ]malate from [1,4- <sup>13</sup> C <sub>2</sub> ]fumarate is a marker of cell necrosis and treatment response in tumors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 19801-19806.	7.1	328
12	Hyperpolarized <sup>13</sup> C MRI: Path to Clinical Translation in Oncology. <i>Neoplasia</i> , 2019, 21, 1-16.	5.3	316
13	Magnetic resonance imaging of tumor glycolysis using hyperpolarized <sup>13</sup> C-labeled glucose. <i>Nature Medicine</i> , 2014, 20, 93-97.	30.7	298
14	Early detection of cancer. <i>Science</i> , 2022, 375, eaay9040.	12.6	291
15	Molecular imaging using fluorescent lectins permits rapid endoscopic identification of dysplasia in Barrett's esophagus. <i>Nature Medicine</i> , 2012, 18, 315-321.	30.7	285
16	Methodological consensus on clinical proton MRS of the brain: Review and recommendations. <i>Magnetic Resonance in Medicine</i> , 2019, 82, 527-550.	3.0	280
17	Tumor imaging using hyperpolarized <sup>13</sup> C magnetic resonance spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2011, 66, 505-519.	3.0	229
18	Imaging Cell Death. <i>Journal of Nuclear Medicine</i> , 2014, 55, 1-4.	5.0	224

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19	Hyperpolarized [ <sup>13</sup> C]-Ascorbic and Dehydroascorbic Acid: Vitamin C as a Probe for Imaging Redox Status in Vivo. <i>Journal of the American Chemical Society</i> , 2011, 133, 11795-11801.	13.7	177
20	Imaging Metabolism with Hyperpolarized <sup>13</sup> C-Labeled Cell Substrates. <i>Journal of the American Chemical Society</i> , 2015, 137, 6418-6427.	13.7	171
21	Detecting response of rat C6 glioma tumors to radiotherapy using hyperpolarized [ <sup>13</sup> C]pyruvate and <sup>13</sup> C magnetic resonance spectroscopic imaging. <i>Magnetic Resonance in Medicine</i> , 2011, 65, 557-563.	3.0	152
22	<sup>13</sup> C MR spectroscopy measurements of glutaminase activity in human hepatocellular carcinoma cells using hyperpolarized <sup>13</sup> C-labeled glutamine. <i>Magnetic Resonance in Medicine</i> , 2008, 60, 253-257.	3.0	148
23	Quantifying normal human brain metabolism using hyperpolarized [ <sup>13</sup> C]pyruvate and magnetic resonance imaging. <i>NeuroImage</i> , 2019, 189, 171-179.	4.2	144
24	Imaging breast cancer using hyperpolarized carbon-13 MRI. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 2092-2098.	7.1	138
25	Kinetic Modeling of Hyperpolarized <sup>13</sup> C Label Exchange between Pyruvate and Lactate in Tumor Cells. <i>Journal of Biological Chemistry</i> , 2011, 286, 24572-24580.	3.4	133
26	The significance and mechanism of mitochondrial proton conductance. <i>International Journal of Obesity</i> , 1999, 23, S4-S11.	3.4	127
27	Detection of cell-free DNA fragmentation and copy number alterations in cerebrospinal fluid from glioma patients. <i>EMBO Molecular Medicine</i> , 2018, 10, .	6.9	123
28	Biomedical applications of hyperpolarized <sup>13</sup> C magnetic resonance imaging. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 2009, 55, 285-295.	7.5	121
29	ctDNA monitoring using patient-specific sequencing and integration of variant reads. <i>Science Translational Medicine</i> , 2020, 12, .	12.4	116
30	Artifactual uncoupling by uncoupling protein 3 in yeast mitochondria at the concentrations found in mouse and rat skeletal-muscle mitochondria. <i>Biochemical Journal</i> , 2002, 361, 49-56.	3.7	107
31	Magnetization transfer measurements of exchange between hyperpolarized [ <sup>13</sup> C]pyruvate and [ <sup>13</sup> C]lactate in a murine lymphoma. <i>Magnetic Resonance in Medicine</i> , 2010, 63, 872-880.	3.0	107
32	Noninvasive In Vivo Assessment of Cardiac Metabolism in the Healthy and Diabetic Human Heart Using Hyperpolarized <sup>13</sup> C MRI. <i>Circulation Research</i> , 2020, 126, 725-736.	4.5	105
33	A Comparison between Radiolabeled Fluorodeoxyglucose Uptake and Hyperpolarized <sup>13</sup> C-Labeled Pyruvate Utilization as Methods for Detecting Tumor Response to Treatment. <i>Neoplasia</i> , 2009, 11, 574-IN11.	5.3	104
34	Magnetic resonance imaging with hyperpolarized [1,4- <sup>13</sup> C <sub>2</sub> ]fumarate allows detection of early renal acute tubular necrosis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 13374-13379.	7.1	99
35	Direct Enhancement of Nuclear Singlet Order by Dynamic Nuclear Polarization. <i>Journal of the American Chemical Society</i> , 2012, 134, 7668-7671.	13.7	94
36	Imaging pH with hyperpolarized <sup>13</sup> C. <i>NMR in Biomedicine</i> , 2011, 24, 1006-1015.	2.8	93

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37	Dual-modality gene reporter for in vivo imaging. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 415-420.	7.1	91
38	NMR methods for measuring enzyme kinetics in vivo. Progress in Nuclear Magnetic Resonance Spectroscopy, 1988, 20, 257-293.	7.5	89
39	A comparison of quantitative methods for clinical imaging with hyperpolarized <sup>13</sup> C pyruvate. NMR in Biomedicine, 2016, 29, 387-399.	2.8	83
40	Imaging sialylated tumor cell glycans in vivo. FASEB Journal, 2011, 25, 2528-2537.	0.5	80
41	Metabolic Glycan Imaging by Isonitrile-Tetrazine Click Chemistry. ChemBioChem, 2013, 14, 1063-1067.	2.6	79
42	Detection of Cell Death in Tumors by Using MR Imaging and a Gadolinium-based Targeted Contrast Agent. Radiology, 2008, 246, 854-862.	7.3	78
43	Hyperpolarized <sup>13</sup> C Spectroscopy Detects Early Changes in Tumor Vasculature and Metabolism after VEGF Neutralization. Cancer Research, 2012, 72, 854-864.	0.9	73
44	Measuring Tumor Glycolytic Flux in Vivo by Using Fast Deuterium MRI. Radiology, 2020, 294, 289-296.	7.3	73
45	Detection of Apoptosis Using the C2A Domain of Synaptotagmin I. Bioconjugate Chemistry, 2004, 15, 983-987.	3.6	72
46	Development and evaluation of new cyclooctynes for cell surface glycan imaging in cancer cells. Chemical Science, 2011, 2, 932.	7.4	71
47	MRI with hyperpolarised [ <sup>13</sup> C]pyruvate detects advanced pancreatic preneoplasia prior to invasive disease in a mouse model. Gut, 2016, 65, 465-475.	12.1	71
48	Induction of apoptosis in two mammalian cell lines results in increased levels of fructose-1,6-Bisphosphate and CDP-choline as determined by <sup>31</sup> P MRS. Magnetic Resonance in Medicine, 1998, 40, 411-420.	3.0	69
49	Mitochondrial proton leak and the uncoupling proteins. Journal of Bioenergetics and Biomembranes, 1999, 31, 517-524.	2.3	68
50	Measurement of Plasma Cell-Free Mitochondrial Tumor DNA Improves Detection of Glioblastoma in Patient-Derived Orthotopic Xenograft Models. Cancer Research, 2019, 79, 220-230.	0.9	67
51	Detection of Tumor Response to a Vascular Disrupting Agent by Hyperpolarized <sup>13</sup> C Magnetic Resonance Spectroscopy. Molecular Cancer Therapeutics, 2010, 9, 3278-3288.	4.1	66
52	Imaging Cell Surface Glycosylation in Vivo Using "Double Click" Chemistry. Bioconjugate Chemistry, 2013, 24, 934-941.	3.6	66
53	<sup>1</sup> H MRS-visible lipids accumulate during apoptosis of lymphoma cells in vitro and in vivo. Magnetic Resonance in Medicine, 2005, 54, 43-50.	3.0	65
54	MRI measurements of reporter-mediated increases in transmembrane water exchange enable detection of a gene reporter. Nature Biotechnology, 2017, 35, 75-80.	17.5	63

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55	Assessing responses to cancer therapy using molecular imaging. <i>Biochimica Et Biophysica Acta: Reviews on Cancer</i> , 2006, 1766, 242-261.	7.4	61
56	Fragmentation patterns and personalized sequencing of cell-free DNA in urine and plasma of glioma patients. <i>EMBO Molecular Medicine</i> , 2021, 13, e12881.	6.9	61
57	Comparison of the C2A Domain of Synaptotagmin-I and Annexin-V As Probes for Detecting Cell Death. <i>Bioconjugate Chemistry</i> , 2010, 21, 884-891.	3.6	57
58	Detection of tumor glutamate metabolism in vivo using <sup>13</sup> C magnetic resonance spectroscopy and hyperpolarized [ <sup>13</sup> C]glutamate. <i>Magnetic Resonance in Medicine</i> , 2011, 66, 18-23.	3.0	55
59	Hyperpolarized singlet lifetimes of pyruvate in human blood and in the mouse. <i>NMR in Biomedicine</i> , 2013, 26, 1696-1704.	2.8	54
60	Brain Tumor Imaging. <i>Journal of Clinical Oncology</i> , 2017, 35, 2432-2438.	1.6	53
61	Hyperpolarized <sup>13</sup> C MRI and PET: In Vivo Tumor Biochemistry. <i>Journal of Nuclear Medicine</i> , 2011, 52, 1333-1336.	5.0	52
62	Probing Lactate Dehydrogenase Activity in Tumors by Measuring Hydrogen/Deuterium Exchange in Hyperpolarized [ <sup>13</sup> C,U- <sup>2</sup> H]Lactate. <i>Journal of the American Chemical Society</i> , 2012, 134, 4969-4977.	13.7	49
63	Dual-sugar imaging using isonitrile and azido-based click chemistries. <i>Organic and Biomolecular Chemistry</i> , 2013, 11, 7297.	2.8	49
64	Potential Clinical Roles for Metabolic Imaging with Hyperpolarized [1- <sup>13</sup> C]Pyruvate. <i>Frontiers in Oncology</i> , 2016, 6, 59.	2.8	49
65	Emerging Technologies to Image Tissue Metabolism. <i>Cell Metabolism</i> , 2019, 29, 518-538.	16.2	47
66	Analysis of image heterogeneity using 2D Minkowski functionals detects tumor responses to treatment. <i>Magnetic Resonance in Medicine</i> , 2014, 71, 402-410.	3.0	46
67	Spin echo measurements of the extravasation and tumor cell uptake of hyperpolarized [ <sup>13</sup> C]lactate and [ <sup>13</sup> C]pyruvate. <i>Magnetic Resonance in Medicine</i> , 2013, 70, 1200-1209.	3.0	45
68	Imaging Tumor Metabolism Using Positron Emission Tomography. <i>Cancer Journal (Sudbury, Mass )</i> , 2015, 21, 129-136.	2.0	41
69	Imaging tumour cell metabolism using hyperpolarized <sup>13</sup> C magnetic resonance spectroscopy. <i>Biochemical Society Transactions</i> , 2010, 38, 1220-1224.	3.4	40
70	Carbonic Anhydrase Activity Monitored <i>In Vivo</i> by Hyperpolarized <sup>13</sup> C-Magnetic Resonance Spectroscopy Demonstrates Its Importance for pH Regulation in Tumors. <i>Cancer Research</i> , 2015, 75, 4109-4118.	0.9	40
71	Magnetic resonance imaging of cancer metabolism with hyperpolarized <sup>13</sup> C-labeled cell metabolites. <i>Current Opinion in Chemical Biology</i> , 2018, 45, 187-194.	6.1	40
72	Hyperpolarized <sup>13</sup> C MRI of Tumor Metabolism Demonstrates Early Metabolic Response to Neoadjuvant Chemotherapy in Breast Cancer. <i>Radiology Imaging Cancer</i> , 2020, 2, e200017.	1.6	40

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73	Amplification of TRIM44: Pairing a Prognostic Target With Potential Therapeutic Strategy. <i>Journal of the National Cancer Institute</i> , 2014, 106, .	6.3	38
74	In vivo single-shot <sup>13</sup> C spectroscopic imaging of hyperpolarized metabolites by spatiotemporal encoding. <i>Journal of Magnetic Resonance</i> , 2014, 240, 8-15.	2.1	38
75	Hyperpolarized [ <sup>2</sup> H, <sup>13</sup> C]Glucose reports on glycolytic and pentose phosphate pathway activity in EL4 tumors and glycolytic activity in yeast cells. <i>Magnetic Resonance in Medicine</i> , 2015, 74, 1543-1547.	3.0	38
76	Metabolic Imaging Detects Resistance to PI3K Inhibition Mediated by Persistent FOXM1 Expression in ER+ Breast Cancer. <i>Cancer Cell</i> , 2020, 38, 516-533.e9.	16.8	38
77	Dynamic <sup>1</sup> H imaging of hyperpolarized [ <sup>13</sup> C]lactate in vivo using a reverse INEPT experiment. <i>Magnetic Resonance in Medicine</i> , 2018, 79, 741-747.	3.0	37
78	Magnetic Resonance Imaging Is More Sensitive Than PET for Detecting Treatment-Induced Cell Death-Dependent Changes in Glycolysis. <i>Cancer Research</i> , 2019, 79, 3557-3569.	0.9	36
79	Analysis of heterogeneity in T2-weighted MR images can differentiate pseudoprogression from progression in glioblastoma. <i>PLoS ONE</i> , 2017, 12, e0176528.	2.5	34
80	Metabolic Imaging Detects Low Levels of Glycolytic Activity That Vary with Levels of c-Myc Expression in Patient-Derived Xenograft Models of Glioblastoma. <i>Cancer Research</i> , 2018, 78, 5408-5418.	0.9	34
81	Breast cancer-associated macrophages promote tumorigenesis by suppressing succinate dehydrogenase in tumor cells. <i>Science Signaling</i> , 2020, 13, .	3.6	34
82	Monitoring tumor cell death in murine tumor models using deuterium magnetic resonance spectroscopy and spectroscopic imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	33
83	Assessing Oxidative Stress in Tumors by Measuring the Rate of Hyperpolarized [1- <sup>13</sup> C]Dehydroascorbic Acid Reduction Using <sup>13</sup> C Magnetic Resonance Spectroscopy. <i>Journal of Biological Chemistry</i> , 2017, 292, 1737-1748.	3.4	32
84	Apoptosis detection using magnetic resonance imaging and spectroscopy. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 2005, 47, 175-185.	7.5	31
85	Detection of transgene expression using hyperpolarized <sup>13</sup> C urea and diffusion-weighted magnetic resonance spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2015, 73, 1401-1406.	3.0	31
86	Single shot three-dimensional pulse sequence for hyperpolarized <sup>13</sup> C MRI. <i>Magnetic Resonance in Medicine</i> , 2017, 77, 740-752.	3.0	30
87	A Paramagnetic Nanoprobe To Detect Tumor Cell Death Using Magnetic Resonance Imaging. <i>Nano Letters</i> , 2007, 7, 1419-1423.	9.1	29
88	Imaging Mouse Cancer Models In Vivo Using Reporter Transgenes. <i>Cold Spring Harbor Protocols</i> , 2013, pdb.top069864.	0.3	29
89	Phosphorus-31 NMR measurements of the ADP concentration in yeast cells genetically modified to express creatine kinase. <i>Biochemistry</i> , 1990, 29, 3295-3302.	2.5	27
90	Oatp1 Enhances Bioluminescence by Acting as a Plasma Membrane Transporter for d-luciferin. <i>Molecular Imaging and Biology</i> , 2014, 16, 626-634.	2.6	27

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91	Hyperpolarised <sup>13</sup> C-MRI identifies the emergence of a glycolytic cell population within intermediate-risk human prostate cancer. <i>Nature Communications</i> , 2022, 13, 466.	12.8	27
92	Mapping of oxygen tension and cell distribution in a hollow-fiber bioreactor using magnetic resonance imaging. , 1997, 56, 56-61.		26
93	Imaging Glycosylation In Vivo by Metabolic Labeling and Magnetic Resonance Imaging. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 1286-1290.	13.8	26
94	Development of Timd2 as a reporter gene for MRI. <i>Magnetic Resonance in Medicine</i> , 2016, 75, 1697-1707.	3.0	26
95	Detection of apoptosis in tumors using magnetic resonance imaging and spectroscopy. <i>Advances in Enzyme Regulation</i> , 2002, 42, 101-112.	2.6	25
96	Optoacoustic Detection of Early Therapy-Induced Tumor Cell Death Using a Targeted Imaging Agent. <i>Clinical Cancer Research</i> , 2017, 23, 6893-6903.	7.0	25
97	Hyperpolarized Carbon-13 MRI for Early Response Assessment of Neoadjuvant Chemotherapy in Breast Cancer Patients. <i>Cancer Research</i> , 2021, 81, 6004-6017.	0.9	25
98	Measurement of bioreactor perfusion using dynamic contrast agent-enhanced magnetic resonance imaging. <i>Biotechnology and Bioengineering</i> , 2001, 75, 682-690.	3.3	24
99	Late Imaging with [ <sup>11</sup> C]Acetate Improves Detection of Tumor Fatty Acid Synthesis with PET. <i>Journal of Nuclear Medicine</i> , 2014, 55, 1144-1149.	5.0	24
100	Rapid Imaging of Tumor Cell Death In Vivo Using the C2A Domain of Synaptotagmin-I. <i>Journal of Nuclear Medicine</i> , 2017, 58, 881-887.	5.0	24
101	Tumor Cell-Derived Nitric Oxide Is Involved in the Immune-Rejection of an Immunogenic Murine Lymphoma. <i>Cancer Research</i> , 2004, 64, 152-161.	0.9	23
102	SPECT imaging of myocardial infarction using <sup>99m</sup> Tc-labeled C2A domain of synaptotagmin I in a porcine ischemia-reperfusion model. <i>Nuclear Medicine and Biology</i> , 2007, 34, 917-923.	0.6	23
103	Design and validation of a near-infrared fluorescence endoscope for detection of early esophageal malignancy. <i>Journal of Biomedical Optics</i> , 2016, 21, 084001.	2.6	23
104	Analysis of <sup>13</sup> C and <sup>14</sup> C labeling in pyruvate and lactate in tumor and blood of lymphoma-bearing mice injected with <sup>13</sup> C and <sup>14</sup> C-labeled pyruvate. <i>NMR in Biomedicine</i> , 2018, 31, e3901.	2.8	23
105	Imaging and omic™ methods for the molecular diagnosis of cancer. <i>Expert Review of Molecular Diagnostics</i> , 2010, 10, 417-434.	3.1	22
106	Expanding Theranostic Radiopharmaceuticals for Tumor Diagnosis and Therapy. <i>Pharmaceuticals</i> , 2022, 15, 13.	3.8	22
107	Spin echo proton NMR studies of the metabolism of malate and fumarate in human erythrocytes. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 1982, 721, 191-200.	4.1	21
108	Characterization of image heterogeneity using 2D Minkowski functionals increases the sensitivity of detection of a targeted MRI contrast agent. <i>Magnetic Resonance in Medicine</i> , 2009, 61, 1218-1224.	3.0	21

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109	Versatile and enhanced tumour modelling in mice via somatic cell transduction. <i>Journal of Pathology</i> , 2014, 232, 449-457.	4.5	21
110	<sup>13</sup> C magnetic resonance spectroscopic imaging of hyperpolarized [ <sup>13</sup> C, U- <sup>2</sup> H <sub>5</sub> ] ethanol oxidation can be used to assess aldehyde dehydrogenase activity in vivo. <i>Magnetic Resonance in Medicine</i> , 2015, 73, 1733-1740.	3.0	21
111	Increased hyperpolarized [ <sup>13</sup> C] lactate production in a model of joint inflammation is not accompanied by tissue acidosis as assessed using hyperpolarized <sup>13</sup> C-labelled bicarbonate. <i>NMR in Biomedicine</i> , 2018, 31, e3892.	2.8	21
112	Photogenerated Radical in Phenylglyoxylic Acid for in Vivo Hyperpolarized <sup>13</sup> C MR with Photosensitive Metabolic Substrates. <i>Journal of the American Chemical Society</i> , 2018, 140, 14455-14463.	13.7	21
113	[ <sup>18</sup> F]fluoroethyltyrosine-induced Cerenkov Luminescence Improves Image-Guided Surgical Resection of Glioma. <i>Theranostics</i> , 2018, 8, 3991-4002.	10.0	19
114	Following Metabolism in Living Microorganisms by Hyperpolarized <sup>1</sup> H NMR. <i>Journal of the American Chemical Society</i> , 2016, 138, 12278-12286.	13.7	18
115	Effects of fasting on serial measurements of hyperpolarized [ <sup>13</sup> C]pyruvate metabolism in tumors. <i>NMR in Biomedicine</i> , 2016, 29, 1048-1055.	2.8	18
116	Hyperpolarized <sup>13</sup> C-Pyruvate Metabolism as a Surrogate for Tumor Grade and Poor Outcome in Renal Cell Carcinoma—A Proof of Principle Study. <i>Cancers</i> , 2022, 14, 335.	3.7	18
117	Hyperpolarized MRI, functional MRI, MR spectroscopy and CEST to provide metabolic information in vivo. <i>Current Opinion in Chemical Biology</i> , 2021, 63, 209-218.	6.1	17
118	Imaging Glioblastoma Metabolism by Using Hyperpolarized [ <sup>13</sup> C]Pyruvate Demonstrates Heterogeneity in Lactate Labeling: A Proof of Principle Study. <i>Radiology Imaging Cancer</i> , 2022, 4, .	1.6	17
119	Imaging Tumor Metabolism to Assess Disease Progression and Treatment Response. <i>Clinical Cancer Research</i> , 2016, 22, 5196-5203.	7.0	15
120	Quantitation of a spin polarization-induced nuclear Overhauser effect (SPINOE) between a hyperpolarized <sup>13</sup> C-labeled cell metabolite and water protons. <i>Contrast Media and Molecular Imaging</i> , 2014, 9, 182-186.	0.8	13
121	Analysis of CHO-K1 cell growth in a fixed bed bioreactor using magnetic resonance spectroscopy and imaging. , 1999, 30, 121-132.		12
122	<sup>31</sup> P magnetization transfer measurements of P <sub>i</sub> ATP flux in exercising human muscle. <i>Journal of Applied Physiology</i> , 2016, 120, 649-656.	2.5	12
123	A referenceless Nyquist ghost correction workflow for echo planar imaging of hyperpolarized [ <sup>13</sup> C]pyruvate and [ <sup>13</sup> C]lactate. <i>NMR in Biomedicine</i> , 2018, 31, e3866.	2.8	12
124	Metabolomics: Pandora's Box or Aladdin's Cave?. <i>Biochemist</i> , 2003, 25, 15-17.	0.5	12
125	Investigating the Performance of Intensive Mammalian Cell Bioreactor Systems Using Magnetic Resonance Imaging and Spectroscopy. <i>Biotechnology and Genetic Engineering Reviews</i> , 1998, 15, 499-520.	6.2	11
126	Hyperpolarized <sup>13</sup> C spectroscopic imaging using single-shot 3D sequences with unpaired adiabatic refocusing pulses. <i>NMR in Biomedicine</i> , 2018, 31, e4004.	2.8	11



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127	<sup>31</sup> P NMR measurements of the effects of unsaturated fatty acids on cellular phospholipid metabolism. <i>Magnetic Resonance in Medicine</i> , 1996, 35, 481-488.	3.0	10
128	Probing hepatic metabolism of [2- <sup>13</sup> C]dihydroxyacetone in vivo with <sup>1</sup> H-decoupled hyperpolarized <sup>13</sup> C-MR. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2021, 34, 49-56.	2.0	10
129	Comparison of <sup>13</sup> C MRI of hyperpolarized [ <sup>13</sup> C]pyruvate and lactate with the corresponding mass spectrometry images in a murine lymphoma model. <i>Magnetic Resonance in Medicine</i> , 2021, 85, 3027-3035.	3.0	9
130	Imaging Glycosylation In Vivo by Metabolic Labeling and Magnetic Resonance Imaging. <i>Angewandte Chemie</i> , 2016, 128, 1308-1312.	2.0	8
131	<sup>13</sup> C magnetic resonance spectroscopy measurements with hyperpolarized [ <sup>13</sup> C] pyruvate can be used to detect the expression of transgenic pyruvate decarboxylase activity in vivo. <i>Magnetic Resonance in Medicine</i> , 2016, 76, 391-401.	3.0	8
132	Sub-minute kinetics of human red cell fumarase: <sup>1</sup> H spin-echo NMR spectroscopy and <sup>13</sup> C rapid-dissolution dynamic nuclear polarization. <i>NMR in Biomedicine</i> , 2018, 31, e3870.	2.8	8
133	Glyoxalase activity in human erythrocytes and mouse lymphoma, liver and brain probed with hyperpolarized <sup>13</sup> C-methylglyoxal. <i>Communications Biology</i> , 2018, 1, 232.	4.4	8
134	Deuterium MRSI of tumor cell death in vivo following oral delivery of <sup>2</sup> H-labeled fumarate. <i>Magnetic Resonance in Medicine</i> , 2022, 88, 2014-2020.	3.0	8
135	Studies of metabolic control using NMR and molecular genetics. <i>Journal of Molecular Recognition</i> , 1997, 10, 182-187.	2.1	7
136	<sup>18</sup> F-C2Am: a targeted imaging agent for detecting tumor cell death in vivo using positron emission tomography. <i>EJNMMI Research</i> , 2020, 10, 151.	2.5	7
137	Dynamic nuclear polarisation: The future of imaging in oncology?. <i>Porto Biomedical Journal</i> , 2017, 2, 71-75.	1.0	5
138	A multi spin echo pulse sequence with optimized excitation pulses and a 3D cone readout for hyperpolarized <sup>13</sup> C imaging. <i>Magnetic Resonance in Medicine</i> , 2020, 84, 1895-1908.	3.0	5
139	Increasing the sensitivity of hyperpolarized [ <sup>15</sup> N <sub>2</sub> ]urea detection by serial transfer of polarization to spin-coupled protons. <i>Magnetic Resonance in Medicine</i> , 2020, 84, 1844-1856.	3.0	5
140	Enzymology in vivo using NMR and molecular genetics. <i>Journal of Molecular Recognition</i> , 1993, 6, 159-165.	2.1	4
141	Genetic algorithm-based optimization of pulse sequences. <i>Magnetic Resonance in Medicine</i> , 2022, 87, 2130-2144.	3.0	4
142	Spectroscopic measurements of metabolic fluxes. <i>Nature Biomedical Engineering</i> , 2020, 4, 254-256.	22.5	3
143	Multi-modal imaging of high-risk ductal carcinoma in situ of the breast using C2Am: a targeted cell death imaging agent. <i>Breast Cancer Research</i> , 2021, 23, 25.	5.0	3
144	Editorial commentary for the special issue: technological developments in hyperpolarized <sup>13</sup> C imaging toward a deeper understanding of tumor metabolism in vivo. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2021, 34, 1-3.	2.0	3

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145	Gene reporters for magnetic resonance imaging. Trends in Genetics, 2022, 38, 996-998.	6.7	3
146	Metabolic imaging with hyperpolarized [1-13C] pyruvate in patient-derived preclinical mouse models of breast cancer. STAR Protocols, 2021, 2, 100608.	1.2	2
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