Supporting Table S1: The 100 top-cited MR articles ranked in order of the number of citations received

Ranking	Article	No. of citations	No. of annual citations (ranking)
1	Tzourio-Mazoyer N, et al. Automated anatomical labeling of activations in SPM using a macroscopic anatomical parcellation of the MNI MRI single-subject brain. *Neuroimage* 2002;15(1):273–89.	5679	372.4 (1)
2	Smith SM, et al. Advances in functional and structural MR image analysis and implementation as FSL. *Neuroimage* 2004;23 Suppl 1:S208–19.	4778	362.9 (2)
3	Cox RW. AFNI: Software for analysis and visualization of functional magnetic resonance neuroimages. *Comput Biomed Res* 1996;29(3):162–73.	4681	224.7 (6)
4	Biswal B, et al. Functional connectivity in the motor cortex of resting human brain using echo-planar MRI. *Magn Reson Med* 1995;34(4):537–41.	3793	176.4 (9)
5	Pruessmann KP, et al. SENSE: Sensitivity encoding for fast MRI. *Magn Reson Med* 1999;42(5):952–62.	3423	196.5 (8)
6	Carr HY, et al. Effects of diffusion on free precession in nuclear magnetic resonance experiments. *Phys Rev* 1954;94(3):630–8.	3334	53.0 (64)
7	Bloembergen, N., et al. Relaxation effects in nuclear magnetic resonance absorption. *Phys Rev* 1948;73(7),679–712.	3248	47.1 (74)
8	Ogawa S, et al. Brain magnetic resonance imaging with contrast dependent on blood oxygenation. *Proc Natl Acad Sci U S A* 1990;87(24):9868–72.	3226	122.5 (22)
9	Rueckert D, et al. Nonrigid registration using free-form deformations: Application to breast MR images. *IEEE Trans Med Imaging* 1999;18(8):712–21.	2964	167.8 (10)
10	Basser PJ, et al. MR diffusion tensor spectroscopy and imaging. *Biophys J* 1994;66(1):259–67.	2938	126.4 (18)
11	Caravan P, et al. Gadolinium(III) chelates as MRI contrast agents: Structure, dynamics, and applications. *Chem Rev* 1999;99(9):2293–352.	2831	160.2 (11)

12	Kwong KK, et al. Dynamic magnetic resonance imaging of human brain activity during primary sensory stimulation. *Proc Natl Acad Sci U S A* 1992;89(12):5675–9.	2804	111.0 (24)
13	Lipari G, et al. Model-free approach to the interpretation of nuclear magnetic resonance relaxation in macromolecules. 1. Theory and range of validity. *J Am Chem Soc* 1982;104(17):4546–59	2785	80.3 (40)
14	Fox MD, et al. Spontaneous fluctuations in brain activity observed with functional magnetic resonance imaging. *Nat Rev Neurosci* 2007;8(9):700–11.	2708	282.6 (4)
15	Giedd JN, et al. Brain development during childhood and adolescence: a longitudinal MRI study. *Nat Neurosci* 1999;2(10):861–3.	2651	151.5 (13)
16	Basser PJ, et al. Microstructural and physiological features of tissues elucidated by quantitative-diffusion-tensor MRI. *J Magn Reson B* 1996;111(3):209–19.	2647	127.1 (17)
17	Zhang Y, et al. Segmentation of brain MR images through a hidden Markov random field model and the expectation-maximization algorithm. *IEEE Trans Med Imaging* 2001;20(1):45–57.	2507	154.3 (12)
18	Sled JG, et al. A nonparametric method for automatic correction of intensity nonuniformity in MRI data. *IEEE Trans Med Imaging* 1998;17(1):87–97.	2448	127.7 (16)
19	Forman SD, et al. Improved assessment of significant activation in functional magnetic resonance imaging (fMRI): use of a cluster-size threshold. *Magn Reson Med* 1995;33(5):636–47.	2414	110.1 (26)
20	Dale JA, et al. Nuclear magnetic resonance enantiomer reagents. Configurational correlations via nuclear magnetic resonance chemical shifts of diastereomeric mandelate, O-methylmandelate, and α-methoxy-α-trifluoromethylphenylacetate (MTPA) esters. *J Am Chem Soc* 1973;95(2):512–9.	2398	54.2 (60)
21	Aue WP, et al. Two-dimensional spectroscopy. Application to nuclear magnetic resonance. *J Chem Phys* 1976;64(5):2229–46.	2360	57.4 (55)
22	Ogawa S, et al. Intrinsic signal changes accompanying sensory stimulation: functional brain mapping with magnetic resonance imaging. *Proc Natl Acad Sci U S A* 1992;89(13):5951–5.	2325	93.9 (34)
23	Lustig M, et al. Sparse MRI: The application of compressed sensing for rapid MR imaging. *Magn Reson Med* 2007;58(6):1182–95.	2242	240.2 (5)

24	Collins DL, et al. Automatic 3D intersubject registration of MR volumetric data in standardized Talairach space. *J Comput Assist Tomogr* 1994;18(2):192–205.	2235	97.0 (32)
25	Mori S, et al. Three-dimensional tracking of axonal projections in the brain by magnetic resonance imaging. *Ann Neurol* 1999;45(2):265–9.	2147	118.2 (23)
26	Desikan RS, et al. An automated labeling system for subdividing the human cerebral cortex on MRI scans into gyral based regions of interest. *Neuroimage* 2006;31(3):968–80.	2136	198.7 (7)
27	Fischl B et al. Measuring the thickness of the human cerebral cortex from magnetic resonance images. *Proc Natl Acad Sci U S A* 2000;97(20):11050–5.	2037	122.8 (21)
28	Le Bihan D, et al. MR imaging of intravoxel incoherent motions: application to diffusion and perfusion in neurologic disorders. *Radiology* 1986;161(2):401–7.	2029	66.7 (48)
29	Kim RJ, et al. The use of contrast enhanced magnetic resonance imaging to identify reversible myocardial dysfunction. *N Engl J Med* 2000;343(20):1445–53.	2020	123.0 (20)
30	Greicius MD, et al. Default-mode network activity distinguishes Alzheimer's disease from healthy aging: evidence from functional MRI. *Proc Natl Acad Sci U S A* 2004;101(13):4637–42.	1825	139.5 (14)
31	Tofts PS, et al. Estimating kinetic parameters from dynamic contrast-enhanced T(1)-weighted MRI of a diffusable tracer: standardized quantities and symbols. *J Magn Reson Imaging* 1999;10(3):223–32.	1772	100.8 (29)
32	Basser PJ, et al. In vivo fiber tractography using DT-MRI data. *Magn Reson Med* 2000;44(4):625–32.	1742	105.6 (27)
33	Pierpaoli C, et al. Diffusion tensor MR imaging of the human brain. *Radiology* 1996;201(3):637–48.	1721	84.6 (38)
34	Kim RJ, et al. Relationship of MRI delayed contrast enhancement to irreversible injury, infarct age, and contractile function. *Circulation* 1999;100(19):1992–2002.	1668	95.8 (33)
35	Lauterbur PC. Image formation by induced local interactions. Examples employing nuclear magnetic resonance. *Nature* 1973;242(5394):190–1.	1642	37.2 (90)

36	Sereno MI, et al. Borders of multiple visual areas in humans revealed by functional magnetic resonance imaging. *Science* 1995;268(5212):889–93.	1626	74.2 (43)
37	Karplus M. Vicinal Proton Coupling in Nuclear Magnetic Resonance. *J Am Chem Soc* 1963;85(18):2870–1.	1607	30.0 (96)
38	Shenton ME, et al. A review of MRI findings in schizophrenia. *Schizophr Res* 2001;49(1–2):1–52.	1552	97 (31)
39	Boynton GM, et al. Linear systems analysis of functional magnetic resonance imaging in human V1. *J Neurosci* 1996;16(13):4207–21.	1538	74.1 (44)
40	Boden SD, et al. Abnormal magnetic-resonance scans of the lumbar spine in asymptomatic subjects. A prospective investigation. *J Bone Joint Surg Am* 1990;72(3):403–8.	1510	55.8 (57)
41	Power JD, et al. Spurious but systematic correlations in functional connectivity MRI networks arise from subject motion. *Neuroimage* 2012;59(3):2142–54.	1502	290.7 (3)
42	Morris GA, et al. Enhancement of nuclear magnetic resonance signals by polarization transfer. *J Am Chem Soc* 1979;101(3):760–2.	1493	39.0 (88)
43	Wishart DS, et al. Relationship between nuclear magnetic resonance chemical shift and protein secondary structure. *J Mol Biol* 1991;222(2):311–33.	1472	57.9 (54)
44	James R, et al. A comparison of models for calculating nuclear magnetic resonance shielding tensors. *J Chem Phys* 1996;104(14):5497–509.	1447	68.1 (47)
45	Bandettini PA, et al. Processing strategies for time-course data sets in functional MRI of the human brain. *Magn Reson Med* 1993;30(2):161–73.	1424	60.2 (51)
46	Jensen MC, et al. Magnetic resonance imaging of the lumbar spine in people without back pain. *N Engl J Med* 1994;331(2):69–73.	1423	62.5 (49)
47	Lipari G, et al. Model-free approach to the interpretation of nuclear magnetic resonance relaxation in macromolecules. 2. Analysis of experimental results. *J Am Chem Soc* 1982;104(17):4559–70.	1405	40.3 (87)

48	Le Bihan D, et al. Separation of diffusion and perfusion in intravoxel incoherent motion MR imaging. *Radiology* 1988;168(2):497–505.	1399	48.8 (70)
49	Hennig J, et al. RARE imaging: a fast imaging method for clinical MR. *Magn Reson Med* 1986;3(6):823–33.	1382	45.6 (79)
50	Ogawa S, et al. Oxygenation-sensitive contrast in magnetic resonance image of rodent brain at high magnetic fields. *Magn Reson Med* 1990;14(1):68–78.	1360	50.4 (68)
51	Fazekas F, et al. MR signal abnormalities at 1.5 T in Alzheimer's dementia and normal aging. *AJR Am J Roentgenol* 1987;149(2):351–6.	1325	44.7 (84)
52	Song SK, et al. Dysmyelination revealed through MRI as increased radial (but unchanged axial) diffusion of water. *Neuroimage* 2002;17(3):1429–36.	1311	90.9 (35)
53	Behrens TE, et al. Characterization and propagation of uncertainty in diffusion-weighted MRimaging. *Magn Reson Med* 2003;50(5):1077–88.	1306	97.3 (30)
54	Kubo R, et al. A General Theory of Magnetic Resonance Absorption. *J Phys Soc Jpn* 1954;9(6):888–919.	1266	20.3 (99)
55	Saslow D et al. American Cancer Society guidelines for breast screening with MRI as an adjunct to mammography. *CA Cancer J Clin* 2007;57(2):75–89.	1255	125.0 (19)
56	Moseley ME, et al. Early detection of regional cerebral ischemia in cats: comparison of diffusion- and T2-weighted MRI and spectroscopy. *Magn Reson Med* 1990;14(2):330–46.	1223	45.4 (80)
57	Bock K, et al. Carbon-13 Nuclear Magnetic Resonance Spectroscopy of Monosaccharides. *Adv Carbohydr Chem Biochem* 1983;41(C):27–66.	1211	35.8 (92)
58	Gudbjartsson H, et al. The Rician distribution of noisy MRI data. *Magn Reson Med* 1995;34(6):910–4.	1172	54.9 (59)
59	Belliveau JW, et al. Functional mapping of the human visual cortex by magnetic resonance imaging. *Science* 1991;254(5032):716–9.	1160	45.6 (78)
60	Muthupillai R, et al. Magnetic resonance elastography by direct visualization of propagating acoustic strain waves. *Science*	1157	53.6 (62)

	1995;269(5232):1854–7.		
61	Karni A, et al. Functional MRI evidence for adult motor cortex plasticity during motor skill learning. *Nature* 1995;377(6545):155–8.	1150	53.3 (63)
62	Hoult DI, et al. The Signal-to-Noise Ratio of the Nuclear Magnetic Resonance Experiment. *J Magn Reson* 1976;24:71–85.	1147	28.3 (97)
63 [a]	Sun C, et al. Magnetic nanoparticles in MR imaging and drug delivery. *Adv Drug Deliv Rev* 2008;60(11):1252–65.	1145	132.1 (15)
63[a]	Malach R, et al. Object-related activity revealed by functional magnetic resonance imaging in human occipital cortex. *Proc Natl Acad Sci U S A* 1995;92(18):8135–9.	1145	52.8 (65)
65	Ogawa S, et al. Functional brain mapping by blood oxygenation level-dependent contrast magnetic resonance imaging. A comparison of signal characteristics with a biophysical model. *Biophys J* 1993 Mar;64(3):803–12.	1140	47.3 (73)
66	Paty DW, et al. Interferon beta-1b is effective in relapsing-remitting multiple sclerosis. II. MRI analysis results of a multicenter, randomized, double-blind, placebo-controlledtrial. UBC MS/MRI Study Group and the IFNB Multiple Sclerosis Study Group. *Neurology* 1993;43(4):662–7.	1121	46.7 (76)
67	Calhoun VD, et al. A method for making group inferences from functional MRI data using independent component analysis. *Hum Brain Mapp* 2001;14(3):140–51.	1100	71.4 (45)
68	Dale AM, et al. Improved Localizadon of Cortical Activity by Combining EEG and MEG with MRI Cortical Surface Reconstruction: A Linear Approach. *J Cogn Neurosci* 1993;5(2):162–76.	1095	45.3 (82)
69	Bremner JD, et al. MRI-based measurement of hippocampal volume in patients with combat-related posttraumatic stress disorder. *Am J Psychiatry* 1995;152(7):973–81.	1094	50.3 (69)
70	Kriege M, et al. Efficacy of MRI and mammography for breast-cancer screening in women with a familial or genetic predisposition. *N Engl J Med* 2004;351(5):427–37.	1089	85.4 (37)
71	Pfirrmann CW, et al. Magnetic resonance classification of lumbar intervertebral disc degeneration. *Spine (Phila Pa 1976)* 2001;26(17):1873–8.	1081	69.4 (46)

72	Beckmann CF, et al. Probabilistic independent component analysis for functional magnetic resonance imaging. *IEEE Trans Med Imaging* 2004;23(2):137–52.	1055	80.1 (41)
73	Johnson Jr CS. Diffusion ordered nuclear magnetic resonance spectroscopy: principles and applications. *Prog Nucl Magn Reson Spectrosc* 1999;34: 203–56.	1051	58.7 (53)
74	Friston, KJ, et al. Analysis of Functional MRI Time-Series. *Hum Brain Mapp* 1994;(1):153–71.	1017	43.7 (85)
75	Bulte JW, et al. Iron oxide MR contrast agents for molecular and cellular imaging. *NMR Biomed* 2004;17(7):484–99.	1012	81.5 (39)
76	Longstreth WT Jr, et al. Clinical correlates of white matter findings on cranial magnetic resonance imaging of 3301 elderly people. The Cardiovascular Health Study. *Stroke* 1996;27(8):1274–82.	1007	48.7 (71)
77	Tootell RB, et al. Functional analysis of human MT and related visual cortical areas using magnetic resonance imaging. *J Neurosci* 1995;15(4):3215–30.	1005	45.7 (77)
78	Wu KC, et al. Prognostic significance of microvascular obstruction by magnetic resonance imaging in patients with acute myocardial infarction. *Circulation* 1998;97(8):765–72.	1004	52.6 (66)
79	Koh DM, et al. Diffusion-weighted MRI in the body: applications and challenges in oncology. *AJR Am J Roentgenol* 2007;188(6):1622–35.	992	100.9 (28)
80	Rugar D, et al. Single spin detection by magnetic resonance force microscopy. *Nature* 2004; 430(6997) 329–32.	985	77.3 (42)
81	Zerhouni EA, et al. Human heart: tagging with MR imaging--a method for noninvasive assessment of myocardial motion. *Radiology* 1988;169(1):59–63.	975	34.2 (95)
82	Jones DK, et al. Optimal strategies for measuring diffusion in anisotropic systems by magnetic resonance imaging. *Magn Reson Med* 1999;42(3):515–25.	971	55.2 (58)
83	Jack CR Jr, et al. Prediction of AD with MRI-based hippocampal volume in mild cognitive impairment. *Neurology* 1999;52(7):1397–403.	970	53.9 (61)
84	Engel SA, et al. Retinotopic organization in human visual cortex and the spatial precision of functional MRI. *Cereb Cortex*	945	47.1 (75)

	1997;7(2):181–92.		
85	Pfefferbaum A, et al. A quantitative magnetic resonance imaging study of changes in brain morphology from infancy to late adulthood. *Arch Neurol* 1994;51(9):874–87.	943	41.8 (86)
86	Kuhl CK, et al. Dynamic breast MR imaging: are signal intensity time course data useful for differential diagnosis of enhancing lesions? *Radiology* 1999;211(1):101–10.	939	52.2 (67)
87	Watson JD, et al. Area V5 of the human brain: evidence from a combined study using positron emission tomography and magnetic resonance imaging. *Cereb Cortex* 1993;3(2):79–94.	937	39.0 (89)
88	Ahmed MN, et al. A modified fuzzy C-means algorithm for bias field estimation and segmentation of MRI data. IEEE *Trans Med Imaging* 2002 ;21(3):193–9.	930	61.7 (50)
89	Simonetti OP, et al. An improved MR imaging technique for the visualization of myocardial infarction. *Radiology* 2001;218(1):215–23.	928	57.1 (56)
90[a]	Barkhof F, et al. Comparison of MRI criteria at first presentation to predict conversion to clinically definite multiple sclerosis. *Brain* 1997;120(Pt 11):2059–69.	927	47.7 (72)
90[a]	Davis JH, et al. Quadrupolar echo deuteron magnetic resonance spectroscopy in ordered hydrocarbon chains. *Chem Phys Lett* 1976;42(2):390–4.	927	22.8 (98)
92	Tofts PS, et al. Measurement of the blood-brain barrier permeability and leakage space using dynamic MR imaging. 1. Fundamental concepts. *Magn Reson Med* 1991;17(2):357–67.	926	35.4 (94)
93[a]	Tofts PS. Modeling tracer kinetics in dynamic Gd-DTPA MR imaging. *J Magn Reson Imaging* 1997;7(1):91–101.	917	45.4 (81)
93[a]	Stewart WE, et al. Nuclear magnetic resonance studies of amides. *Chem Rev* 1970;70(5):517–51	917	19.7 (100)
95	Hendel RC, et al. ACCF/ACR/SCCT/SCMR/ASNC/NASCI/SCAI/SIR 2006 Appropriateness Criteria for Cardiac Computed Tomography and Cardiac Magnetic Resonance Imaging* * Developed in accordance with the principles and methodology outlined by ACCF: Patel MR, Spertus JA, Brindis RG, Hendel RC, Douglas PS, Peterson ED, Wolk MJ, Allen JM, Raskin IE. *J*	916	87.2 (36)

	Am Coll Cardiol 2006;48(7):1475–97.		
96	Shenton ME, et al. Abnormalities of the left temporal lobe and thought disorder in schizophrenia A quantitative magnetic resonance imaging study. *N Engl J Med* 1992;327(9):604–12.	909	36.9 (91)
97	Binder JR, et al. Human brain language areas identified by functional magnetic resonance imaging. *J Neurosci* 1997;17(1):353–62.	908	44.8 (83)
98	Padhani AR, et al. Diffusion-weighted magnetic resonance imaging as a cancer biomarker: consensus and recommendations. *Neoplasia* 2009;11(2):102–25.	905	110.8 (25)
99	Anderson LJ, et al. Cardiovascular T2-star (T2*) magnetic resonance for the early diagnosis of myocardial iron overload. *Eur Heart J* 2001;22(23):2171–9.	900	58.7 (52)
100	Williams DS, et al. Magnetic resonance imaging of perfusion using spin inversion of arterial water. *Proc Natl Acad Sci U S A* 1992;89(1):212–6.	898	35.6 (93)

[a]Two articles have the same rank because they have an equal number of citations.