



Oxygen-17 (^{17}O)

ISMRM 2009 Presentations

^{17}O T_1/T_2^* Tissue-Relaxation Rates with Anatomical Contrast in the Rat Brain at 16.4 T

Author: Wiesner, Hannes M.; Balla, David Z.; Pohmann, Rolf; Chen, Wei; Ugurbil, Kâmil; Uludag, Kamil

Session: Neurochemical Modeling & Profiling of Brain Metabolism - ORAL Abstract #353

Direct and Noninvasive Measurement of Cerebral Metabolic Rate of ATP in Cat Brain and Its Physiological Implications

Author: Zhu, Xiao-Hong; Zhang, Yi; Ugurbil, Kâmil; Chen, Wei

Session: Advanced High Field MRS Applications in Animal Models - EPOS Abstract #3290

New Methods for the Quantification of Myocardial Oxygen Consumption with ^{17}O MRI

Author: McCommis, Kyle Stephan; He, Xiang; Abendschein, Dana R.; Gupte, Pradeep M.; Gropler, Robert J.; Zheng, Jie

Session: Myocardial Perfusion & Spectroscopy - ORAL Abstract #706

Non-Invasive, Whole-Brain CMRO_2 Mapping of the Human Brain

Author: Atkinson, Ian C.; Thulborn, Keith R.

Session: Non-proton MRI - ORAL Abstract #609

Selected Publications (Chronologic order)

Reviews

Mateescu GD. Functional oxygen-17 magnetic resonance imaging and localized spectroscopy. *Adv Exp Med Biol.* 2003;510:213-8.

Zhu XH, Zhang N, Zhang Y, Zhang X, Ugurbil K, Chen W. In vivo ^{17}O NMR approaches for brain study at high field. *NMR Biomed.* Apr 2005;18(2):83-103.

Methods

Yeung HN, Lent AH. Proton transverse relaxation rate of ^{17}O -enriched water. *Magn Reson Med.* 1987 Jul;5(1):87-92.

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Zhu XH, Zhang Y, Zhang N, Ugurbil K, Chen W. Noninvasive and three-dimensional imaging of CMRO₂ in rats at 9.4 T: reproducibility test and normothermia/hypothermia comparison study. *Journal of Cerebral Blood Flow & Metabolism* 2007;27:1225–1234

16. Thelwall PE. Detection of ¹⁷O-tagged phosphate by (³¹P) MRS: a method with potential for in vivo studies of phosphorus metabolism. *Magn Reson Med*. 2007 Jun;57(6):1168-72.

17. Mellon EA, Beesam RS, Kasam M, Baumgardner JE, Borthakur A, Witschey WR Jr, Reddy R. Single shot T1rho magnetic resonance imaging of metabolically generated water in vivo. *Adv Exp Med Biol*. 2009;645:279-86.

Brain

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