

■ Research Achievement

Nishie A, Togao O, Tamura C, Yamato M, Ichikawa K, Nohara S, Ito Y, Kato N, Yoshise S, Honda H.

In Vitro and In Vivo Detection of Drug-induced Apoptosis Using Annexin V-conjugated Ultrasmall Superparamagnetic Iron Oxide (USPIO): A Pilot Study.

Magn Reson Med Sci 2018

Kato N, Sato S, Yamada K, Ichikawa K.

Imaging Doxorubicin Free Radical in Mice with Overhauser Enhanced MRI and its Tumor Suppression Effect in Mice.

Appl Mag Reson. 49(8), 869-879 (2018)

Scroggins B, Matsuo M, White A, Saito K, Munasinghe JP, Sourbier C, Yamamoto K, Diaz V, Ichikawa K, Mitchell JB, Cherukuri MK, Citrin DE.

Hyperpolarized [1-¹³C]-pyruvate magnetic resonance spectroscopic imaging of prostate cancer in vivo predicts efficacy of targeting the Warburg effect.

Clinical Cancer Research. 24(13), 3137-3148 (2018)

Yasukawa K, Shigemi M, Kanbe T, Mutsumoto Y, Oda F, Ichikawa K, Yamada K, Tun X, Utsumi H.

In vivo imaging of the intra- and extracellular redox status in rat stomach with indomethacin-induced gastric ulcers using Overhauser-enhanced magnetic resonance imaging.

Antioxidant & Redox Signalling, 2018

Imakura, Y, Nonaka H, Takakusagi Y, Ichikawa K, Sando S.

Rational design of [1³C,D14]tert-butylbenzene as a scaffold structure for designing long-lived hyperpolarized ¹³C probes.

Chem Asian J. 13(3), 280-283. (2018)

Nishihara T, Kameyama Y, Nonaka H, Takakusagi Y, Hyodo F, Ichikawa K, Sando S.

A Strategy to Design Hyperpolarized ¹³C Magnetic Resonance Probes Using [1-¹³C]α-Amino Acid as a Scaffold Structure.

Chem Asian J. 12(9), 949-953. (2017)

Nonaka H, Hirano M, Imakura Y, Takakusagi Y, Ichikawa K, Sando S.

Design of a ^{15}N Molecular Unit to Achieve Long Retention of Hyperpolarized Spin State.
Sci Rep. 7:40104. (2017)

S. Yamamoto, T. Watabe, H. Ikeda, Y. Kanai, K. Ichikawa, M. Nakao, K. Kato and J. Hatazawa.,

Development of a PET/OMRI combined system for simultaneous imaging of positron and free radical probes for small animals.
Med. Physics 43, 5676-5684(2016).

Y. Takakusagi, K Inoue, T. Naganuma, F. Hyodo, K Ichikawa.

Effect of ionic interaction between a hyperpolarized magnetic resonance chemical probe and a gadolinium contrast agent for the hyperpolarized lifetime after dissolution.

J. Magn. Reson. 270, 157-160 (2016)

T. Nishihara, H.A.I. Yoshihara, H. Nonaka, Y. Takakusagi, F. Hyodo, K. Ichikawa, E. Can, J.A.M. Bastiaansen, Y. Takado, A. Comment, S. Sando.

Direct Monitoring of γ -Glutamyl Transpeptidase Activity In Vivo Using A Hyperpolarized ^{13}C -labeled Molecular Probe.

Angewandte Chemie 55, 1-5 (2016)

R. Hata, H. Nonaka, Y. Takakusagi, K. Ichikawa and S. Sando

Design of a Hyperpolarized Molecular Probe for Detection of Aminopeptidase N Activity.

Angewandte Chemie.55, 1765-1768 (2016)

R. Hata, H. Nonaka, Y. Takakusagi, K. Ichikawa and S. Sando

Design of a hyperpolarized ^{15}N NMR probe that induces a large chemical-shift change upon binding of calcium ion.

Chem Comm. 51, 12290-12292 (2015)

Niidome T, Gokuden R, Watanabe K, Mori T, Naganuma T, Utsumi H, Ichikawa K, Katayama Y

Nitroxyl Radicals-Modified Dendritic Poly(L-Lysine) that Images Tumor by Overhauser-Enhanced MRI.

J Biomater Sci Polym Ed. 25(13):1425-39, (2014)

Kumagai K, Akakabe M, Tsuda M, Konishi Y, Tsuda M, Fukushi E, Kawabata J, Abe T, Ichikawa K

Observation of Glycolytic Metabolites in Tumor Cell Lysate by Using Hyperpolarization of Deuterated Glucose.

Biol. Pharm. Bull. 37(8):1416-21. (2014)

■ Conference Presentation, Symposium, Lecture Presentation

Ichikawa K.

High Resolution DNP-MRI for Small Animal Imaging.

Future of Hyper-Polarized Nuclear Spins State-of-the-Art Dynamic Nuclear Polarization Techniques IPR seminar 24th-25th Aug 2017 Osaka (invited lecture)

Ichikawa K.

Development of High Resolution OMRI Scanner for Small Animal imaging.

International Conference on Electron Paramagnetic Resonance Spectroscopy and Imaging of Biological Systems, 16 -22, July, 2017, Morgantown WV (invited lecture)

Y. Tokunaga, M. Nakao, T. Naganuma and K. Ichikawa

Construction of 0.15 Tesla DNP-MRI,

International Conference on Electron Paramagnetic Resonance Spectroscopy and Imaging of Biological Systems, 16 -22, July, 2017, Morgantown WV

C Tamura, T Naganuma, K Ichikawa

Construction of Double-tuned Resonator for Overhauser MRI,

International Conference on Electron Paramagnetic Resonance Spectroscopy and Imaging of Biological Systems, 16 -22, July, 2017, Morgantown WV,

Ichikawa K.

Development of DNP-MRI scanners at wide frequency range for biomedical application -from skin to large animal-,

Molecular Photoscience Research Center International Workshop (MR-THz2016), 8-9th Nov 2016 Kobe, Japan (invited lecture)

■ Patent application

Hideo Utsumi, Kazuhiro Ichikawa, Tetsuhiko Takahashi

Measurement device and measurement method

US PAT 8,896,311 2014. 11 25

Hideo Utsumi, Fuminori Hyodo, Kazuhiro Ichikawa
Method for detecting an endogenous biomolecule
US PAT 8,722,420 2014.5.13

Hideo Utsumi, Fuminori Hyodo, Kazuhiro Ichikawa
Method for detecting an endogenous biomolecule
EU PAT 2494918 2015. 8.19

Kazuhiro Ichikawa, Hideo Utsumi
Measurement device and measurement method
EU PAT 2296546 2016. 2. 10