

## Curriculum Vitae

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- Date of Birth: July 15, 1948
- Education: 1968-72 Kyoto University, Faculty of Engineering.  
1972-74 Kyoto University, Department of Hydrocarbon Chemistry.  
1974-77 Kyoto University, Department of Hydrocarbon Chemistry.
- Degrees: Bachelor of Engineering, 1972  
Master of Engineering, 1974  
Ph.D., 1978
- Research and Professional Experience:
- 1983-88 Director of Medical School NMR Facility, University of Pennsylvania.
  - 1984-88 Research Assistant Professor, Department of Biochemistry and Biophysics, University of Pennsylvania School of Medicine.
  - 1988-89 MR Product Marketing Manager, Yokogawa Medical Systems.
  - 1989-92 Visiting Professor, Molecular Neurobiology Research Center, Shiga University of Medical Science.
  - 1992-2001 Professor, Molecular Neurobiology Research Center, Shiga University of Medical Science.
  - 2001-03 Director and Professor, Molecular Neuroscience Research Center, Shiga University of Medical Science.
  - 2003-present. Director and Professor, Biomedical MR Science Center, Shiga University of Medical Science.
- Honor: 1983-84 Mellon Institute Fellow.  
1980-82 Visiting Fellowship of the National Institutes of Health.
- Membership: 2006-08 President of Japanese Society for Magnetic Resonance in Medicine  
2009-10 President of Japanese Society for Molecular Imaging

### List of Selected Publications

1. Yanagisawa D, Taguchi H, Ibrahim NF, Morikawa S, Shiino A, Inubushi T, Hirao K, Shirai N, Sogabe T, Tooyama I. Preferred Features of a Fluorine-19 MRI Probe for Amyloid Detection in the Brain. *J Alzheimers Dis.* 2013 Nov 18.
2. Shiino A, Yamauchi H, Morikawa S, Inubushi T. Mapping of cerebral metabolic rate of oxygen using DSC and BOLD MR imaging: a preliminary study. *Magn Reson Med Sci.* 2012;11(2):109-15.
3. Shiino A, Watanabe T, Shirakashi Y, Kotani E, Yoshimura M, Morikawa S, Inubushi T, Akiguchi I. The profile of hippocampal metabolites differs between Alzheimer's disease and subcortical ischemic vascular dementia, as measured by proton magnetic resonance spectroscopy. *J Cereb Blood Flow Metab.* 2012;32(5):805-15.
4. Morikawa S, Murayama H, Fujimoto S, Shiino A, Inubushi T. A simple way to acquire T(1)-weighted MR images of rat liver with respiratory triggering. *Magn Reson Imaging.* 2012;30(3):453-8.
5. Fujimoto S, Morikawa S, Inubushi T. An MR comparison study of cardiogenic and noncardiogenic pulmonary edema in animal models. *J Magn Reson Imaging.* 2011;34(5):1092-8.
6. Tomiyasu M, Matsuda T, Tropp J, Inubushi T, Nakai T. Combination of two fat saturation pulses improves detectability of glucose signals in carbon-13 MR spectroscopy. *Proc Jpn Acad Ser B Phys Biol Sci.* 2011;87(7):425-30.
7. Shiino A, Akiguchi I, Watanabe T, Shirakashi Y, Nozaki K, Tooyama I, Inubushi T. Morphometric characterization of

- Binswanger's disease: comparison with Alzheimer's disease. *Eur J Radiol.* 2012;81(9):2375-9.
8. Yanagisawa D, Amatsubo T, Morikawa S, Taguchi H, Urushitani M, Shirai N, Hirao K, Shiino A, Inubushi T, Tooyama I. In vivo detection of amyloid  $\beta$  deposition using  $^{19}\text{F}$  magnetic resonance imaging with a  $^{19}\text{F}$ -containing curcumin derivative in a mouse model of Alzheimer's disease. *Neuroscience.* 2011;184:120-7.
  9. Nakae I, Mitsunami K, Yoshino T, Omura T, Tsutamoto T, Matsumoto T, Morikawa S, Inubushi T, Horie M. Clinical features of myocardial triglyceride in different types of cardiomyopathy assessed by proton magnetic resonance spectroscopy: comparison with myocardial creatine. *J Card Fail.* 2010 Oct;16(10):812-22.
  10. Tanaka K, Narita A, Kitamura N, Uchiyama W, Morita M, Inubushi T, Chujo Y. Preparation for highly sensitive MRI contrast agents using core/shell type nanoparticles consisting of multiple SPIO cores with thin silica coating. *Langmuir.* 2010 Jul 20;26(14):11759-62.
  11. Kojima H, Mukai Y, Yoshikawa M, Kamei K, Yoshikawa T, Morita M, Inubushi T, Yamamoto TA, Yoshioka Y, Okada N, Seino S, Nakagawa S. Simple PEG conjugation of SPIO via an Au-S bond improves its tumor targeting potency as a novel MR tumor imaging agent. *Bioconjug Chem.* 2010 Jun 16;21(6):1026-31.
  12. Yanagisawa D, Shirai N, Amatsubo T, Taguchi H, Hirao K, Urushitani M, Morikawa S, Inubushi T, Kato M, Kato F, Morino K, Kimura H, Nakano I, Yoshida C, Okada T, Sano M, Wada Y, Wada KN, Yamamoto A, Tooyama I. Relationship between the tautomeric structures of curcumin derivatives and their Abeta-binding activities in the context of therapies for Alzheimer's disease. *Biomaterials.* 2010 May;31(14):4179-85. Epub 2010 Feb 23.
  13. Yanagida T, Tsushima J, Kitamura Y, Yanagisawa D, Takata K, Shibaike T, Yamamoto A, Taniguchi T, Yasui H, Taira T, Morikawa S, Inubushi T, Tooyama I, Ariga H. Oxidative stress induction of DJ-1 protein in reactive astrocytes scavenges free radicals and reduces cell injury. *Oxid Med Cell Longev.* 2009 Jan-Mar;2(1):36-42.
  14. Takahashi S, Saruhashi Y, Odate S, Matsusue Y, Morikawa S. Percutaneous aspiration of spinal ventricle cysts using real-time magnetic resonance imaging and navigation. *Spine* 34:629-634, 2009.
  15. Yanagida T, Tsushima J, Kitamura Y, Yanagisawa D, Takata K, Shibaike T, Yamamoto A, Taniguchi T, Yasui H, Taira T, Morikawa S, Inubushi T, Tooyama I, Ariga H. Oxidative stress induction of DJ-1 protein in reactive astrocytes scavenges free radicals and reduces cell injury. *Oxidative Medicine and Cellular Longevity.* 2:36-42, 2009.
  16. Morikawa S, Naka S, Murakami K, Kurumi Y, Shiomi H, Tani T, Haque HA, Tokuda J, Hata N, Inubushi T. Preliminary Clinical Experiences of a Motorized Manipulator for Magnetic Resonance Image Guided Microwave Coagulation Therapy of Liver Tumors. *Am J Surg* 198:340-7(2009).
  17. Sonoda A, Nitta N, Ohta S, Seko A, Jo JI, Morikawa S, Tabata Y, Takahashi M, Murata K. Development of a conjugated gadolinium and cisplatin-gelatin possessing properties as an intravascular contrast agent for MR imaging. *Eur J Radiol.* 71:570-5(2009).
  18. Amatsubo T, Morikawa S, Inubushi T, Urushitani M, Taguchi H, Shirai N, Hirao K, Kato M, Morino K, Kimura H, Nakano I, Yoshida C, Okada T, Sano M, Tooyama I. Trifluoromethoxy-benzylated ligands improve amyloid detection in the brain using  $(^{19}\text{F})$  magnetic resonance imaging. *Neurosci Res.* 2009;63(1):76-81.
  19. Tanaka K, Kitamura N, Morita M, Inubushi T, Chujo Y. Assembly system of direct modified superparamagnetic iron oxide nanoparticles for target-specific MRI contrast agents. *Bioorg Med Chem Lett.* 2008;18(20):5463-5.
  20. Murakami K, Morikawa S, Naka S, Demura K, Sato K, Shiomi H, Kurumi Y, Inubushi T, Tani T. Correlation between high field MR images and histopathological findings of rat transplanted cancer immediately after partial microwave coagulation. *Magn Reson Med Sci.* 2008;7(3):105-12.
  21. Jito J, Nakasu S, Ito R, Fukami T, Morikawa S, Inubushi T. Maturation changes in diffusion anisotropy in the rat corpus callosum: comparison with quantitative histological evaluation. *J Magn Reson Imaging.* 2008;28(4):847-54.
  22. Yoshimura T, Suzuki E, Ito I, Sakaguchi M, Uzu T, Nishio Y, Maegawa H, Morikawa S, Inubushi T, Hisatomi A, Fujimoto K, Takeda J, Kashiwagi A. Impaired peripheral circulation in lower-leg arteries caused by higher arterial stiffness and greater vascular resistance associates with nephropathy in type 2 diabetic patients with normal ankle-brachial indices. *Diabetes Res Clin Pract.* 2008 Jun;80(3):416-23. Epub 2008 Mar 11.
  23. Morikawa S, Inubushi T, Morita M, Murakami K, Masuda C, Maki J, Tooyama I. Fluorine-19 fast recovery fast spin echo imaging for mapping 5-fluorouracil. *Magn Reson Med Sci.* 2007;6(4):235-40. PubMed PMID: 18239361.
  24. Yanagisawa D, Kitamura Y, Inden M, Takata K, Taniguchi T, Morikawa S, Morita M, Inubushi T, Tooyama I, Taira T, Iguchi-Ariga SM, Akaike A, Ariga H. DJ-1 protects against neurodegeneration caused by focal cerebral ischemia and reperfusion in rats. *J Cereb Blood Flow Metab.* 2008;28(3):563-78.
  25. Takata K, Kitamura Y, Yanagisawa D, Morikawa S, Morita M, Inubushi T, Tsuchiya D, Chishiro S, Saeki M, Taniguchi T, Shimohama S, Tooyama I. Microglial transplantation increases amyloid-beta clearance in Alzheimer model rats. *FEBS Lett.* 2007;581(3):475-8.