

Pharmaco-Analytical Chemistry

Research Projects

- Studies on the biosynthesis of bile acids
- Studies on the dynamic profile of bile acids in the hepatobiliary diseases
- Development of the analytical methods for bile acids in biological fluids.
- Studies on the convenient assay methods for bile acid transporters activities

Faculty members

Professor: Tsuyoshi MURAI, Ph.D.

Associate Professor: Kousuke SATO, Ph.D.

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Current publications

- * Profile of bile acids in fetal gallbladder and meconium using liquid chromatography-tandem mass spectrometry. Nakayuki Naritaka, Mitsuyoshi Suzuki, Hiroaki Sato, Hajime Takei, Tsuyoshi Murai, Takao Kurosawa, Takeshi Iida, Hiroshi Nittono, Toshiaki Shimizu, *Clinica Chimica Acta*, **446**, 76-81 (2015).
- * A simple and accurate HPLC method for fecal bile acid profile in healthy and cirrhotic subjects: validation by GC-MS and LC-MS. Genta Kakiyama, Akina Muto, Hajime Takei, Hiroshi Nittono, Tsuyoshi Murai, Takao Kurosawa, Alan F. Hofmann, William M. Pandak, Jasmohan S. Bajaj, *J. Lipid Res.*, **55**(5), 978-990 (2014).
- * Determination of 3 β -hydroxy- Δ^5 -bile acids and related compounds in biological fluids of patients with cholestasis by liquid chromatography-tandem mass spectrometry. Tsuyoshi Murai, Kana Oda, Terutake Toyo, Hiroshi Nittono, Hajime Takei, Akina Muto, Akihiko Kimura, Takao Kurosawa, *J. Chromatogr. B*, **923-924**, 120-127 (2013).
- * Measurement of Transport Activities of 3 β -Hydroxy- Δ^5 -bile Acids in Bile Salt Export Pumps and Multidrug Resistance-Associated Proteins Using LC-MS/MS. Tsuyoshi Murai, Kana Oda, Terutake Toyo, Hiroshi Nittono, Hajime Takei, Akina Muto, Akihiko Kimura, Takao Kurosawa, *Chem. Pharm. Bull.*, **61**(5), 559-566 (2013).
- * Detection of $\Delta(4)$ -3-oxo-steroid 5 β -reductase deficiency by LC-ESI-MS/MS measurement of urinary bile acids. Akina Muto, Hajime Takei, Atsushi Unno, Tsuyoshi Murai, Takao Kurosawa, Shoujiro Ogawa, Takashi Iida, Shigeo Ikegawa, Jun Mori, Akira Ohtake, Takayuki Hoshina, Tatsuki Mizuochi, Akihiko Kimura, Alan F. Hofmann, Lee R. Hagey, Hiroshi Nittono, *J Chromatogr B.*, **900**, 24-31 (2012).
- * Measurement of Transport Activities of Bile Acids in Human Multidrug Resistance-Associated Protein 3 Using Liquid Chromatography-Tandem Mass Spectrometry. Kana Yamaguchi, Tsuyoshi Murai, Hikaru Yabuuchi, and Takao Kurosawa, *Anal. Sci.*, **26** (3), 317-323 (2010).

- * Measurement of the Transport Activities of Bile Salt Export Pump Using Chemiluminescence Detection Method. Kana Yamaguchi, Tsuyoshi Murai, Hikaru Yabuuchi, Shu-Ping Hui and Takao Kurosawa, *Yakugaku Zasshi*, **130** (5), 755-761 (2010).
- * Measurement of Bile Salt Export Pump Transport Activities using a Fluorescent Bile Acid Derivative. Kana Yamaguchi, Tsuyoshi Murai, Hikaru Yabuuchi, Takao Kurosawa, *Drug Metab. Pharmacokinet.*, **25**(2), 214-219 (2010).
- * 3β -hydroxy- Δ^5 -C₂₇-steroid dehydrogenase/isomerase deficiency in a patient who underwent oral bile acid therapy for 10 years and delivered two healthy infants. Hiroshi Nittono, Hajime Takei, Atushi Unno, Toshiaki Shimizu, Masakazu Kobayashi, Michiko Koike, Tsuyoshi Murai, Takao Kurosawa, Masahiko Tohma, *Pediatrics International*, **52**, e192-e195 (2010).
- * Molecular genetic and bile acid profiles in two Japanese patients with 3β -hydroxy- Δ^5 -C₂₇-steroid dehydrogenase/isomerase deficiency. Tatsuki Mizuochi, Akihiko Kimura, Isao Ueki, Tomoyuki Takahashi, Takuji Hashimoto, Akira Takao, Yoshitaka Seki, Hajime Takei, Hiroshi Nittono, Takao Kurosawa, Toyojiro Matsuishi, *Pediatr. Res.*, **68**(3), 258-263 (2010).
- * Measurement of the Transport Activities of Bile Salt Export Pump Using LC-MS. Kana Yamaguchi, Tsuyoshi Murai, Hikaru Yabuuchi, and Takao Kurosawa, *Anal. Sci.*, **25**(9), 1155-1158 (2009).

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