

[Available Issues](#) | [Japanese](#)>> [Publisher Site](#)Author: [ADVANCED](#) | Volume Page
Keyword: | [TOP](#) > [Available Issues](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1348-2246

PRINT ISSN : 0910-6340

Analytical Sciences

Vol. 26 (2010) , No. 3 p.317

[\[PDF \(676K\)\]](#) [\[References\]](#)

Measurement of Transport Activities of Bile Acids in Human Multidrug Resistance-Associated Protein 3 Using Liquid Chromatography–Tandem Mass Spectrometry

[Kana YAMAGUCHI](#)¹⁾, [Tsuyoshi MURAI](#)¹⁾, [Hikaru YABUUCHI](#)²⁾ and [Takao KUROSAWA](#)¹⁾

1) Faculty of Pharmaceutical Sciences, Health Sciences University of Hokkaido

2) Office of Collaborative Research and Technology Development, Kobe University

(Received December 29, 2009)

(Accepted January 21, 2010)

A method has been developed for the measurement of transport activities in membrane vesicles obtained from human multidrug resistance-associated protein 3-expressing Sf9 cells for 1 β -hydroxy-, 6 α -hydroxy- and unsaturated bile acids by high-performance liquid chromatography-electrospray ionization-tandem mass spectrometry. Calibration curves for the bile acids were linear over the range of 10 to 2000 pmol/mL, and the detection limit was less than 2 pmol/mL for all bile acids using selected reaction monitoring analysis. The method was applied to measurements of adenosine triphosphate-dependent transport activities of the membrane vesicles for the above-mentioned hydroxylated and unsaturated bile acids. The present study demonstrated that the human multidrug resistance-associated protein 3 vesicles accepted 1 β -, 6 α -hydroxylated and unsaturated bile acids along with common bile acids, such as glycocholic acid and tauro lithocholic acid 3-sulfate. The developed method is useful for measurements of bile acid transport activities.

[\[PDF \(676K\)\]](#) [\[References\]](#)

To cite this article:

Kana YAMAGUCHI, Tsuyoshi MURAI, Hikaru YABUUCHI and Takao KUROSAWA,
Anal. Sci., Vol. 26, p.317, (2010) .

doi:10.2116/analsci.26.317

JOI JST.JSTAGE/analsci/26.317

Copyright (c) 2010 by The Japan Society for Analytical Chemistry



[Japan Science and Technology Information Aggregator, Electronic](#)

