
The Seventeenth iCeMS SEMINAR

Lecturer: **Dr. Dietrich Keppler**

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Vectorial Transport of Small Molecules Across Cellular Membranes by Uptake and Efflux Transport Proteins

Date & Time: **March 19, 2009 15:30-16:30**

Venue: **Conference Room**

Second Floor of the West Wing, iCeMS Complex I

Transport proteins mediating the uptake and efflux of small molecules across cellular membrane domains are key determinants of the absorption, disposition, and elimination of many drugs and endogenous substances. Cell lines stably expressing uptake and/or efflux transporters demonstrate the decisive role of transport proteins in the vectorial transport of many organic anions, organic cations, and neutral compounds across polarized epithelial cells.

In vitro systems for studies on vectorial transport of the cationic berberine include double-transfected polarized cells permanently expressing the human organic cation transporter 1 (OCT1, SLC22A1) together with the efflux pump MDR1 P glycoprotein (ABCB1). Cells stably expressing OATP1B3 as uptake transporter together with the efflux pump MRP2 (ABCC2) served in the data-based mathematical modeling of vectorial transport of the anionic bromosulfophthalein and resulted in a quantitative description of this process and its components.

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Held by: iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University



