

## SL09

# Progress in Drug Transporter Research: From Bench to Bedside

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The translocation of drug across the biomembranes is a crucial step for the absorption, distribution and excretion of administered drugs. It has been acknowledged that the “Drug Transporters” as well as the drug metabolizing enzymes play the key roles on pharmacokinetics of drugs. More than 30 years ago, we proceeded the drug transport research in the small intestine and kidney for the clarification of molecular mechanisms of pharmacokinetics, and the application to clinical usage, so called as “From Bench to Bedside”. Our landmark achievement of the research is to overcome the interindividual variation of pharmacokinetics, and to establish the personalized pharmacotherapy focusing on the functional and molecular information of transporters. We have been cloned the 11 transporters from the small intestine and kidney, and clarified their driving forces and physiological roles. Furthermore, we have revealed the clinical significance of drug transporters such as the marker for dosage adjustment, interindividual variation of pharmacokinetics and drug induced toxicities. In this lecture, I will talk about the progress of drug transporter research, including some topics to be solved and the perspectives of the future achievements.

### 【References】

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