

SFB 35 Colloquia in Membrane Transport

Venue: Medical University Vienna, Center for Physiology and Pharmacology,
Institute of Pharmacology, Waehringerstrasse 13a, 1090 Vienna, "**Leseraum**".

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Friday 17.10.2014 14:00 s.t. **Nicolas Tournier** (host: O. Langer)
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***"Influence of drug transporters on PET and SPECT tracer kinetics:
implication for imaging data interpretation"***

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Abstract: It is now admitted that transporters of the ATP-binding cassette (ABC) and Solute carrier (SLC) superfamilies are key determinants of the pharmacokinetics of many drugs. These transporters may also influence the kinetics of radioligands used for SPECT and PET imaging. Several complementary methods have been proposed to investigate the transport of radioligands by drug transporters. These studies have revealed the influence of carrier-mediated transport systems on the body distribution of radioligands in humans and animals and showed how it may impact PET data interpretation. Furthermore, imaging studies using radiolabeled substrates of drug transporters have considerably improved the knowledge on the overall influence of drug transporters in humans. These studies have shown the potential impact of genetic polymorphism and transporter-based drug-drug interaction on the tissue kinetics of their substrates. Imaging studies were also useful to reveal and understand the influence of the regulation of transporter expression observed in various pathophysiological states.