

BioMedical Transporters 2015 in Lugano

"Membrane transporters - from basic science to drug discovery"

Sunday, August 9, 2015

4:00 - 6:30 pm	Registration
6:00 - 7:45 pm	Cocktail reception dinner
7:45 - 8:15 pm	Opening and welcome - Matthias A. Hediger (Organizer, NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland) and Ken-ichi Inui (Co-Organizer, Kyoto Pharmaceutical University, Japan)
8:15 - 9:15 pm	Session 1: Membrane transporters and channels in drug discovery Chair: Bruno Stieger (Co-Organizer, NCCR TransCure, Clinical Pharmacology and Toxicology, University Hospital Zürich, Switzerland)
8:15 - 9:15 pm	Keynote speaker: Yuichi Sugiyama (RIKEN Innovation Center, RIKEN, Yokohama, Japan) <i>Transporters - role in pharmacokinetics/pharmacodynamics/toxicodynamics of drugs</i>

Monday, August 10, 2015

8:30 - 10:30 am	Session 2: Global analysis of the role of transporters in pathophysiology and therapy Chair: Giulio Superti-Furga (Research Center for Molecular Medicine (CeMM) of the Austrian Academy of Sciences, Vienna, Austria)
8:30 - 9:00 am	Speaker 1: Matthias A. Hediger (Organizer, NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland) <i>Fundamentals and therapeutic importance of the SLC series of membrane transporters</i>
9:00 - 9:30 am	Speaker 2: Sven Rottenberg (Institute for Animal Pathology, University of Bern, Switzerland) <i>Loss-of-function screens using haploid cells identifies LRR8A and LRR8D as determinants of platinum drug resistance</i>
9:30 - 10:00 am	Speaker 3: Daniel Bertrand (HiQScreen Sàrl, Geneva, Switzerland) <i>Functional characterization of zinc transport activity of SLC39A8 (ZIP8) and its schizophrenia-associated variant A391T</i>
10:00 - 10:30 am	Speaker 4: Giulio Superti-Furga (Research Center for Molecular Medicine (CeMM) of the Austrian Academy of Sciences, Vienna, Austria) <i>Solute carriers, metabolism and drug response: a magic triangle</i>
10:30 - 11:00 am	Coffee break
11:00 - 12:30 pm	Session 3: Membrane transporter research – assay and drug development technologies Chair: Bruno Stieger (Co-Organizer, NCCR TransCure, Clinical Pharmacology and Toxicology, University Hospital Zürich, Switzerland)
11:00 - 11:30 am	Speaker 1: Douglas Kell (Institute of Biotechnology, University of Manchester, UK) <i>The cellular uptake of pharmaceutical drugs is transporter-mediated, and thus a problem not of biophysics but of systems biology</i>
11:30 - 12:00 am	Speaker 2: Igor Stagljar (Department of Biochemistry, University of Toronto, Canada) <i>A global analysis of the yeast and human ABC transporter interaction networks</i>
12:00 - 12:30 pm	Speaker 3: Claire Steppan (Department of Pharmacodynamics & Metabolism, Pfizer, Groton, USA) <i>Identification and characterization of SLC13A5/NaCT inhibitors for the treatment of type 2 diabetes</i>
12:30 - 2:00 pm	Lunch
2:00 - 4:00 pm	Session 4: Genetics and epigenetics of transporters in context of diseases Chair: Matthias Schwab (Dr. Margarete Fischer-Bosch-Institute of Clinical Pharmacology, Stuttgart, Germany)
2:00 - 2:30 pm	Speaker 1: Lili Milani (Estonian Genome Center, University of Tartu, Estonia) <i>Genetic and epigenetic regulation of gene expression in fetal and adult human livers: impact on transporter proteins</i>
2:30 - 3:00 pm	Speaker 2: Kenneth To (School of Pharmacy, The Chinese University of Hong Kong) <i>miRNA related epigenetic regulation of ABC transporters and cancer progression</i>
3:00 - 3:30 pm	Speaker 3: Lionel Arnaud (National Institute of Blood Transfusion, Paris, France) <i>Drug transporters – what can we learn from blood groups?</i>
3:30 - 4:00 pm	Speaker 4: Matthias Schwab (Dr. Margarete Fischer-Bosch-Institute of Clinical Pharmacology, Stuttgart, Germany) <i>DNA-methylation related epigenetic regulation of SLC16A3 and clinical consequences</i>
4:00 - 4:30 pm	Coffee break

4:30 - 5:30 pm	Session 5: Podium discussion: Excellence in women's science Chair: Christiane Albrecht (NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland)
	Participant 1: Lili Milani (Estonian Genome Center, University of Tartu, Estonia) Participant 2: Gaia Novarino (Institute of Science and Technology Austria, Klosterneuburg, Austria) Participant 3: Stine Falsig Pedersen (Department of Biology, University of Copenhagen, Denmark) Participant 4: Rajini Rao (Department of Physiology, Johns Hopkins School of Medicine, Baltimore, USA) Participant 5: Claire Stepan (Department of Pharmacodynamics & Metabolism, Pfizer, Groton, USA) Participant 6: Nieng Yan (School of Medicine, Tsinghua University, Beijing, China)
6:00 - 9:00 pm	Session 6: Poster session with drinks & regional specialities Chair: Harald Sitte (Center for Physiology and Pharmacology, Medical University of Vienna, Austria)

Tuesday, August 11, 2015

8:15 - 10:15 am	Session 7: Drug transporters and drug delivery Chair: John Keogh (JPK Consulting, Hitchin, Hertfordshire, UK)
8:15 - 8:45 am	Speaker 1: Chris Edwards (GlaxoSmithKline Medicines Research Centre, Stevenage, Hertfordshire, UK) <i>Selectivity in the functional impact of pulmonary P-glycoprotein upon substrate absorption from the airways</i>
8:45 - 9:15 am	Speaker 2: Yoshikatsu Kanai (Department of Pharmacology, Osaka University School of Medicine, Japan) <i>Amino acid transporters as targets for cancer-selective drug delivery and anti-cancer therapeutics</i>
9:15 - 9:45 am	Speaker 3: Philippe Krebs (Institute of Pathology, University of Bern, Switzerland) <i>SLC15A4 – a link between lysosomal transport and innate immune receptor function</i>
9:45 - 10:15 am	Speaker 4: Peter Bungay (Pfizer Neusentis, Cambridge, UK) <i>Restricting brain penetration of drugs by targeting drug transporters</i>
10:15 - 10:35 am	Coffee break
10:40 - 10:55 am	Group picture
11:00 - 12:40 pm	Session 8a: International young investigators session: SFB35 (Austria), SFB807 (Germany), NCCR TransCure (Switzerland) Chair: Gaia Novarino (SFB35, Institute of Science and Technology Austria, Klosterneuburg, Austria)
11:00 - 11:20 am	Speaker 1: Hanno Sjuts (SFB807, Institute of Biochemistry, Biocenter, Goethe-University Frankfurt, Germany) <i>Structural basis for the inhibition of a bacterial efflux pump</i>
11:20 - 11:40 am	Speaker 2: Andreas Jurik (SFB35, Department of Pharmaceutical Chemistry, University of Vienna, Austria) <i>An in silico approach for investigating GABA transporter selectivity</i>
11:40 - 12:00 am	Speaker 3: Peter Hasenhuettel (SFB35, Institute of Pharmacology, Medical University of Vienna, Austria) <i>Deciphering the kinetic basis of ligand selectivity and efficacy in monoamine transporters</i>
12:00 - 12:20 pm	Speaker 4: Kusumika Saha (SFB35, Center for Physiology and Pharmacology, Medical University of Vienna, Austria) <i>"Second generation" mephedrone analogs, 4-MEC and 4-MePPP, differentially affect monoamine transporter function</i>
12:20 - 12:40 pm	Speaker 5: Luca Pucci (NCCR TransCure, Department of Fundamental Neurosciences, University of Lausanne, Switzerland) <i>Astrocytes may be behind the pathogenesis of autism</i>
12:40- 1:40 pm	Lunch
1:40 - 3:00 pm	Session 8b: International young investigators session: SFB35 (Austria), SFB807 (Germany), NCCR TransCure (Switzerland) Chair: Hugues Abriel (NCCR TransCure, Department of Clinical Research, University of Bern, Switzerland)
1:40 - 2:00 pm	Speaker 6: Ines A. Ehrnstorfer (NCCR TransCure, Department of Biochemistry, University of Zürich, Switzerland) <i>The structural basis for ion selectivity in transition-metal ion transporters of the SLC11/NRAMP family</i>
2:00 - 2:20 pm	Speaker 7: Hundeeep Kaur (SFB807, Center for Biomolecular Magnetic Resonance, Goethe-University Frankfurt, Germany) <i>MsbA: More than an ATPase!!</i>
2:20 - 2:40 pm	Speaker 8: Michael Urban (SFB807, Institute of Biochemistry, Biocenter, Goethe-University Frankfurt, Germany) <i>Membrane transport processes analyzed by a highly parallel nanopore chip system</i>
2:40 - 3:00 pm	Speaker 9: Manuel A. Anderegg (NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland) <i>The sodium/proton exchanger NHA2 is a novel regulator of sodium and calcium homeostasis in the distal convoluted tubule</i>
3:00 - 3:30 pm	Coffee break
4:00 - 9:30 pm	Special excursion - Cruise on the Lake Lugano with dinner on board

Wednesday, August 12, 2015

8:30 - 10:30 am	Session 9: Structure, function and imaging of transporters Chair: Raimund Dutzler (NCCR TransCure, Department of Biochemistry, University of Zürich, Switzerland)
8:30 - 9:00 am	Speaker 1: Nieng Yan (School of Medicine, Tsinghua University, Beijing, China) <i>Structural and mechanistic investigation of the human glucose transporters GLUTs</i>
9:00 - 9:30 am	Speaker 2: Simon Bernèche (SIB Swiss Institute of Bioinformatics, University of Basel, Switzerland) <i>Allosteric mechanisms in K⁺ channels and ABC transporters</i>
9:30 - 10:00 am	Speaker 3: Poul Nissen (Department of Molecular Biology and Genetics, Aarhus University, Denmark) <i>P-type ATPases as drug targets</i>
10:00 - 10:30 am	Speaker 4: Raimund Dutzler (NCCR TransCure, Department of Biochemistry, University of Zürich, Switzerland) <i>The structure and function of calcium activated TMEM16 channels and scramblases</i>
10:30 - 11:00 am	Coffee break
11:00 - 1:00 pm	Session 10: Translation of transporter research - understanding/prediction of how drugs behave in the body Chair: Dominique Bridon (Optivia Biotechnology Inc., Menlo Park, USA)
11:00 - 11:30 am	Speaker 1: Maciej Zamek-Gliszczynski (GlaxoSmithKline, Research Triangle, USA) <i>What is the optimal metformin clinical DDI study design that enables a PD-based dose adjustment decision?</i>
11:30 - 12:00 am	Speaker 2: Yan Zhang (Incyte Corporation, Wilmington, USA) <i>Onset of Wernicke's Encephalopathy following the treatment with fedratinib: a case study of drug and thiamine transporter interaction</i>
12:00 - 12:30 pm	Speaker 3: Cindy Xia (Takeda Pharmaceuticals International Co., Cambridge, USA) <i>Understanding transporter impact on efficacy and toxicity using integrated approaches</i>
12:30 - 1:00 pm	Speaker 4: Jeffrey N. Miner (Ardea Biosciences, San Diego, USA) <i>Uric Acid Transporter 1 inhibition, mechanisms and clinical translation</i>
1:00 - 2:00 pm	Lunch
2:00 - 3:30 pm	Session 11: Academia meets industry Chair: David Hepworth (Department of Worldwide Medicinal Chemistry, Pfizer, Cambridge, USA)
2:00 - 2:30 pm	Speaker 1: John Keogh (JPK Consulting, Hitchin, Hertfordshire, UK) <i>Transporter science in industrial drug development - Where are we now, and is academia helping?</i>
2:30 - 3:00 am	Speaker 2: Liz Carpenter (Structural Genomics Consortium, University of Oxford, UK) <i>Towards high-throughput structure and function studies of human SLCs and ABCs to facilitate drug design</i>
3:00 - 3:30 pm	Speaker 3: David Hepworth (Department of Worldwide Medicinal Chemistry, Pfizer, Cambridge, USA) <i>Solute carrier proteins as a potential source of new drug targets</i>
3:30 - 4:00 pm	Coffee break
4:00 - 5:30 pm	Session 12: Podium discussion: Academia meets industry Chair: David Hepworth (Department of Worldwide Medicinal Chemistry, Pfizer, Cambridge, USA)
	Participant 1: Liz Carpenter (Structural Genomics Consortium, University of Oxford, UK) Participant 2: Matthias A. Hediger (Organizer, NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland) Participant 3: John Keogh (JPK Consulting, Hitchin, Hertfordshire, UK) Participant 4: Claire Stepan (Department of Pharmacodynamics & Metabolism, Pfizer, Groton, USA) Participant 5: Giulio Superti-Furga (Research Center for Molecular Medicine (CeMM) of the Austrian Academy of Sciences, Vienna, Austria)
from 5:30 pm	Enjoy your free evening

Thursday, August 13, 2015

8:30 - 10:00 am	Session 13: Therapeutic relevance of ion exchangers Chair: Daniel Fuster (NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland)
8:30 - 9:00 am	Speaker 1: Stine Falsig Pedersen (Department of Biology, University of Copenhagen, Denmark) <i>Regulation and roles of pH-regulatory ion transporters in mammary cancer: Evidence from 3D- and in vivo models</i>
9:00 - 9:30 am	Speaker 2: Orson Moe (Department of Internal Medicine, UT Southwestern Medical Center, Dallas, USA) <i>Therapeutic inhibitors of mammalian NHEs</i>
9:30 - 10:00 am	Speaker 3: Rajini Rao (Department of Physiology, Johns Hopkins School of Medicine, Baltimore, USA) <i>An inside job: Na⁺/H⁺ exchangers link endosomal pH to neurological disorders</i>
10:00- 10:30 am	Coffee Break
10:30 - 12:30 pm	Session 14: Neurotransmitter transporters in health and disease Chair: Paola Bezzi (NCCR TransCure, Department of Fundamental Neurosciences, University of Lausanne, Switzerland)
10:30 - 11:00 am	Speaker 1: Harald Sitte (Center for Physiology and Pharmacology, Medical University of Vienna, Austria) <i>Organic cation transporter 3: An unsuspected player in the actions of psychostimulant drugs</i>
11:00 - 11:30 am	Speaker 2: Gaia Novarino (Institute of Science and Technology Austria, Klosterneuburg, Austria) <i>The large neutral amino acid transporter, LAT1, in autism and spectrum disorders</i>
11:30 - 12:00 am	Speaker 3: Dominique Bridon (Optivia Biotechnology Inc., Menlo Park, USA) <i>A comprehensive platform to study drug interaction with physiologically important CNS transporters</i>
12:00 - 12:30 pm	Speaker 4: Bruno Giros (Department of Psychiatry, Douglas Hospital, McGill University, Montreal, Canada) <i>Deciphering the behavioral effects of monoamine signaling alterations using conditional deletion of the Vesicular Monoamine Transporter type-2</i>
12:30- 12:45 pm	Poster awards
12:45 - 2:00 pm	Lunch
2:00 - 3:30 pm	Session 15: Interplay of organic cation transporters (OCTs, MATEs) in pharmacotherapy Chair: Ken-ichi Inui (Co-Organizer, Kyoto Pharmaceutical University, Japan)
2:00 - 2:30 pm	Speaker 1: Satohiro Masuda (Department of Pharmacy, Kyushu University Hospital, Japan) <i>Role of OCT2/MATEs interplay in drug-induced nephrotoxicity</i>
2:30 - 3:00 pm	Speaker 2: Stephen H. Wright (Department of Physiology, College of Medicine, University of Arizona, Tucson, USA) <i>The influence of substrate structure on ligand inhibition of OCT2 and MATE1</i>
3:00 - 3:30 pm	Speaker 3: Anne T. Nies (Dr. Margarete Fischer-Bosch-Institute of Clinical Pharmacology, Stuttgart, Germany) <i>Pharmacotherapy of biguanides and the role of OCTs/MATEs interplay</i>
3:30 pm	Closing remarks - Matthias Hediger (Organizer, NCCR TransCure, University of Bern, Switzerland)
3:45 - 4:15 pm	Coffee Break
5:30 - 11:00 pm	Special Farewell Dinner on Monte San Salvatore, Lugano