

Cell Penetrating Peptides (CPP) Satellite Symposium of 30EPS
Programme outline on 30-31 August 2008 at Biomedicum Helsinki, Finland
Organizers: Pirjo Laakkonen, Ulo Langel and Bernard Lebleu

Saturday, 30 August 2008 (at the Biomedicum Helsinki)

09:00-10:00 Registration and coffee at Biomedicum Helsinki

10:00-10:15 Opening

10:15-11:45 Session 1 Chair: Langel, U. University of Stockholm, Sweden

10:15-10:45 Keynote 1: Saarma, M. University of Helsinki, Finland: GDNF and challenges in the CNS delivery (30 min)

Novel cell-penetrating peptides (2x20 min)

10:45-11:05 Howl, J., University of Wolverhampton, UK: Protein mimicry with rhegnylogically-organised cell penetrating peptides

11:05-11:25 El Andaloussi, S. University of Stockholm, Sweden: Vectorization strategies for splice correcting oligonucleotides wit CPPs and functional evaluation of uptake mechanisms

11:25-11:40 Giuntini, F. UK: A Novel Approach To Improve Cellular Delivery Of 5-Aminolaevulinic Acid: New ALA-containing Peptide Prodrugs For Photodynamic Therapy.

11:40-11:55 Pooga, M. Estonia: Interaction of S4₁₃PV peptide with plasma membrane and cell entry

11:55-13:15 Lunch break and mounting of posters

13:15-15:15 Session 2 Chair: Prochiantz, A. CNRS, France

13:15-13:45 Keynote 2: Dowdy, S. UCSD School of Medicine, San Diego, USA: Ubiquitous siRNA delivery by peptide transduction-dsRNA binding domain fusions (30 min)

Mechanism of entry of the CPPs and Applications of the cell-penetrating peptides: Gene modulation (Delivery of siRNAs, morpholinos, PNAs, splice correction etc.) (3x20 min)

13:45-14:05 Seelig, J. University of Basel, Switzerland: Cell penetrating peptides. How do they get across membranes?

14:05-14:25 Brock, R. University of Tübingen, Germany: Rapid cytoplasmic entry of cationic cell-penetrating peptides

14:25-14:45 Lebleu, B. University of Montpellier, France: Delivery of splice correcting oligonucleotides by Arg-rich peptides : structure-activity studies

**14:45-15:00 Herce, H. USA: How do cell penetrating peptides translocate across cell membranes?
*A theoretical model and its experimental validation.***

15:00-15:15 Trabulo, S. Portugal: S4(13)-PV cell penetrating peptide associated with different cargos: assessment of delivery efficiency and internalization mechanisms

15:15-15:45 Coffee and posters

15:45-17:15 Session 3 Chair: Dowdy, S. UCSD School of Medicine, San Diego, USA

Mechanism of entry of the CPPs (continues)

15:45-16:05 Jones, AT. Cardiff University, Wales: Analysis of the capacity of CPPs and their associated cargo to gain access to cells through direct penetration across the plasma membrane and via distinct endocytic pathways

16:05-16:25 Belting M, Lund University, Sweden: Elucidation of the heparan sulfate-dependent endocytotic pathway of cationic drug delivery vectors using phage-derived

16:25-16:40 Prisca, B. Germany: Quantitative evaluation cellular uptake of 22 CPPs in 4 different cell lines

16:40-16:55 Esposito, C. USA: Understanding the mechanism of Cell Penetrating Peptides (CPPs) by a new approach based on advanced model membranes

16:55-17:10 Åmand, H. Sweden: Stimulated Endocytosis in Uptake of Penetratin Peptides: Influence of Arginines and Lysines

17:10-17:25 Pujals, S. Spain: Amphipathic Pro-rich peptides: efficient and protease stable CPPs able to transport intracellularly different cargos

17:30-19:00 Poster viewing session

19:00-22:00 Buffet dinner at Biomedicum Helsinki

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Sunday, 31 August 2008 (at Biomedicum Helsinki)

08:00-09:00 Registration at Biomedicum Helsinki

08:45-10:05 Session 4 Chair: Lebleu, B. University of Montpellier, France

Transduction proteins

08:45-09:15 Keynote 3: Prochiantz, A. CNRS, France: Homeoprotien transduction in the development and physiology of the visual system (30 min)

09:15-09:35 Fichelson, S. INSERM, France: Expansion of human stem cells by passive transmembrane transfer of homeoproteins

09:35-09:50 Nakase, I. Japan: Effective Macropinocytosis Induction and Membrane Penetration by FHV Peptide

09:50-10:05 TBA

10:05-10:30 Coffee and posters

10:30-12:10 Session 5 Chair: Laakkonen, P. University of Helsinki, Finland

In vivo applications (Therapeutics, etc) (2x20 min)

10:30-10:50 Divita, G. CRBM – CNRS, Montpellier, France: Peptide-based nano-structure for *in vivo* delivery of siRNA

10:50-11:10 Wood, M. University of Oxford, UK: Peptide targeting of oligonucleotides for splice correction therapy in Duchenne muscular dystrophy

11:10-11:30 Hudecz, F. Hungary: Synthesis and application for targeting of peptide bioconjugates

11:30-11:45 Pipkorn, R. Germany: BioShuttle as a carrier for temozolomide transport into prostate cancer cells

11:45-12:00 Weiss, A. Germany: Survivin – An inhibitor of apoptosis as a target for peptide based therapy for human breast cancer

12:00-13:30 Lunch break and dismantling of posters

13:30-15:00 Session 6 Chair: Howl, J. University of Wolverhampton, UK

Homing peptides (3x20 min)

13:30-13:50 Koivunen, E. University of Texas, USA: Targeting leukaemia cell with phage display peptides and small-molecules

13:50-14:10 Lindgren, M. University of Stockholm, Sweden: Tumor selective delivery by cell-penetrating peptides

14:10-14:30 Laakkonen, P. University of Helsinki, Finland: Tumour homing peptides

14:30-14:45 Heinz, C. Germany: Transduction of optimized, monomeric peptide aptamers targeting Stat3 prevents proliferation and induces apoptosis in cancer cells

14:45-15:00 Jones, S. UK: A Modular Strategy for the Design of Apoptogenic Cell Penetrating Peptides

15:00-15:20 Coffee break

15:20-16:05 Session 7 Chair: Brock, R. University of Tübingen, Germany

Short communications – selected from abstracts 3x15 min

15:20-15:35 Floren, A. Sweden: A Novel Real-time Flow Cytometry Assay for Monitoring Membrane Accumulation and Intracellular Delivery of Protein-CPP Complexes into Living Cells

15:35-15:50 Henriques, S. Portugal: Endosomal vs non-endosomal uptake of cell-penetrating peptides is dependent on peptide-membrane affinity, as revealed by pep-1 studies

15:50-16:05 Neundorff, I. Germany: Modulating the properties of cell-penetrating peptides by the introduction of organometallic compounds – organometallic compounds

16:05-16:40 Session 8 Discussion leader: Langel, U

Round-table discussion

16:40-16:50 Closing of the Symposium

18:00- Opening ceremony of 30EPS at Finlandia Hall (<http://www.30eps.fi>)