

**P013** Transportan- and TP10-induced protein cellular delivery is flotillin-independent

**Pille Säälik<sup>1,2</sup>, Kärt Padari<sup>2</sup>, Aira Niinep<sup>1</sup>,**

**Mats Hansen<sup>3</sup>, Ülo Langel<sup>3</sup> and Margus Pooga<sup>2</sup>**

*<sup>1</sup> Institute of Molecular and Cell Biology, University of Tartu*

*<sup>2</sup> Institute of Zoology and Hydrobiology, University of Tartu*

*<sup>3</sup> Department of Neurochemistry and Neurotoxicology,  
Stockholm University*

The efforts to define the cellular uptake mechanism and intracellular trafficking of CPPs has led to views about the peptide- and cellular-specific internalisation mode. Since the intracellular location predetermines the availability and activity of biological cargo transduced into cells, the data about the entrance routes is of importance.

We have mapped the transportan- and TP10-mediated protein cellular delivery in relation to Rab5, PI3P, caveolin 1 and flotillin 1, a recently defined membrane raft marker. The markers were chosen in order to map the initial endocytic steps and interaction loci. The localization of CPP-avidin complexes showed no major overlap with any tested markers in HeLa cells. However about 10% colocalization with each of markers was observed by CLSM and TEM. The effect of flotillin-specific siRNA on the uptake of CPP-avidin complexes into cells was assessed by FACS in order to estimate the role of lipid rafts. We suggest that not a single particular endocytic route mediates the transportan and TP10-induced protein uptake but several pathways are activated in parallel.