

P014 Analytical analyses of CPP cellular up-take for studying PDZ domains *in vivo*

Prisca Boisguerin, Judith Mueller, Rudolf Volkmer

*Institut für Medizinische Immunologie, Hessischstr.3-4,
10115 Berlin, Germany*

PDZ domains are ubiquitous protein interaction modules which play a key role in cellular signalling. To expand our knowledge about putative PDZ domain/ligand recognition modes, we screened peptide libraries comprising 6223 human C-termini created by SPOT synthesis (method of inverted peptides). Nevertheless, data sets of protein/ligand interactions gained through *in vitro* high throughput arrays are as yet not sufficient to provide convincing conclusions about the discovered interactions. Evaluation of these *in vitro* data sets through rational *in vivo* assays using cell penetrating peptides (CPPs) is currently becoming more and more important. For this reason, we performed first an analytical screen using 24 different CPPs and three common cell lines for a detailed cellular up-take. We found out that the CPPs internalized differently: i) some CPPs are specific for one cell line, ii) others internalize in each cell line and iii) others seem to be unfavourable for cellular up-take. Using different proteases inhibitors, incubation conditions we tried to increase the amount of CPP internalization.

The CPP peptide sequence giving the best cellular up-take should be co-incubated with the FITC-labelled peptide ligand of a PDZ domain for *in vivo* studies.