

**P023** Synthesis and studies on the cell-penetrating ability of fusogenic peptide for the delivery of ODN or siRNA  
**Jean-Remi Bertrand<sup>e</sup>, Eszter Illyés<sup>a</sup>, Miklós Hollósi<sup>a\*</sup>, Ilona Laczkó<sup>b</sup>, Sándor Bottka<sup>c</sup>, Gábor K. Tóth<sup>d</sup>, Claude Malvy<sup>e</sup>**

*<sup>a</sup>Department of Organic Chemistry, Eötvös Lóránd University, Budapest, Hungary; <sup>b</sup>Institute of Biophysics and <sup>c</sup>Institute of Plant Biology, Biological Research Center, Szeged, Hungary; <sup>d</sup>Institute of Medical Chemistry, University of Szeged, Szeged, Hungary; <sup>e</sup>Institute Gustave Roussy, CNRS UMR 8121, University Paris XI, Villejuif, France*

The efficiency of either antisense oligonucleotides (ODN) or siRNAs as gene inhibiting agents is limited by their poor ability to cross cell membranes. The selection of agents which facilitate the cellular delivery is therefore a challenge for antisense strategies. Fusogenic peptides, often involved in virus cell uptake, are good candidates for this application because they are able to interact efficiently with cell membranes and then to make large complexes. Generally fusogenic compounds are covalently linked to the nucleic acids but need chemical modifications. In this study we have compared the ability of different peptides to deliver nucleic acids into cells after electrostatic complexes formation. We have synthesized peptides derived from antenapedia, FHV, SV40 signal peptide and their fluorescent coumarin labeled derivative. ODNs and peptides interaction was studied by circular dichroism spectroscopy. Taking advantage of the fluorescence labeling we have studied by epifluorescence microscopy their ability to interact with cultured cells and then to efficiently make penetrate ODNs.