

Cell-Penetrating and Cell-Targeting Peptides: Updates and Perspectives.



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During the last two decades, the potential of peptides for drug delivery into cells has been highlighted by the discovery of several cell-penetrating peptides (CPPs). CPPs are very efficient in delivering various molecules into cells. However, except in some specific cases, their lack of cell specificity remains the major drawback for their clinical development even if they remain an efficient tool for transfecting cells in experimental systems.

At the same time, various short peptides with specific binding activity for a given cell line (cell-targeting peptides) have also been reported in the literature. One of the goals of the next years will be to optimise the tissue and cell delivery of therapeutic molecules by means of peptides which combine both targeting and internalisation advantages. In this seminar, the main strategies that are currently in use or likely to be employed in the near future to associate both targeting and delivery properties of these peptides will be developed.