Product Information
MAP

For Research Purposes only. Not for use in Humans

Product	BAP-309
Sequence	KLALKLALKALKAALKLA Lys-Leu-Ala-Leu-Lys-Leu-Ala-Leu-Lys-Ala-Leu-Lys-Ala-Ala-Leu-Lys-Leu-Ala
Synonyms	Model amphipathic peptide (MAP), KLAL,
CAS	Not available
MW / Formula	1877.5 / $C_{90}H_{169}N_{23}O_{19}$
Counter ion	TFA
Description	Cell penetrating peptides (**CPPs**) are characterised by their ability to promote the receptor-independent cellular uptake of membrane-impermeable macromolecules, such as peptides, proteins, nucleic acids and nanoparticles. CPPs are usually short peptides with less than 30 amino acids. They are mostly amphipathic, highly cationic and usually rich of amino acids arginine and lysine. In 1988 the first CPP, the HIV-1 Trans-Activator of Transcription (TAT) protein was discovered independently by two laboratories. In 1991, the 60 amino acid Antennapedia homeodomain peptide was shown to enter nerve cells. Three years later it was reported, that a 16 mer peptide corresponding to the third helix of homeodomainis, Antennapedia (43-58) is capable to translocate through cell membranes (see BAP-306, Antennapedia (43-58), penetratin). **MAP** is a designed amphipathic peptide. The 18-mer peptide has been used for transmembrane transport of peptides. An extensive structure-activity relationship study has been carried out showing that helical amphipathicity is the most important factor for the uptake of this type of peptide [Scheller et. al]. A comparative study of the cellular uptake and cargo delivery kinetics of penetratin, transportan, Tat (48-60) and MAP showed, that MAP has the fastest cellular uptake and cargo delivery efficiency, followed by transportan, TAT, and penetratin [Hällbrink et al.]. CPPs share structural and property features with antimicrobial peptides (AMPs). Two CPPs, with bactericidal action against Neisseria mengingitis were identified, transportan-10 (TP10) and MAP [Eriksson et al.].
Packaging Reconstitution Storage	The peptide amide is provided as a lyophilised, colourless powder without any additives. It can be shipped at ambient temperature and should be stored at -20°C. TP10 can be reconstituted in water. Through the use of a vortex mixer, homogeniser or sonicator, a homogenous solution can be prepared. If you use an ultrasonic bath, take care of the vial labels. After reconstitution, the solution should be aliquoted and stored at or below –20°C. Repeated thawing and freezing should be avoided.
Handling	Caution, not fully tested. Good laboratory technique should be employed in the safe handling of any peptide product. If you are not fully trained or are unaware of the hazards involved, do not use this compound! Caution: Do not take internally! Avoid contact by all modes of exposure. Wear appropriate laboratory attire including a lab coat, gloves, mask and safety glasses. Do not mouth pipette, inhale, ingest or allow coming into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device. This product is intended for research purposes by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. EMC microcollections GmbH is not liable for any damages resulting from misuse or handling of this product.

References

CPPs

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