
Product Data Sheet

Product Name: Transdermal Peptide TFA

Cat. No.: GC38869

Chemical Properties

Cas. No.

Formula $C_{42}H_{65}F_3N_{14}O_{18}S_2$ M.Wt 1175.17

Solubility Water: 100 mg/mL (85.09 mM) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

Transdermal Peptide TFA (TD 1 peptide TFA) is a 11-amino acid peptide, binds to Na⁺/K⁺-ATPase beta-subunit (ATP1B1), and mainly interacts with the C-terminus of ATP1B1. Transdermal Peptide TFA can enhance the transdermal delivery of many macromolecules[1].

In the presence of Transdermal Peptide, because of the specific binding of Transdermal Peptide to ATP1B1, cells will upregulate the level of ATP1B1 to maintain function and structure; as a result, the expression of ATP1B1 increases. However, as time goes on, some Transdermal Peptide molecules may be transported into cells by endocytosis; consequently, the expression of ATP1B1 then decreases. The interaction between Transdermal Peptide and ATP1B1 changes not only the expression of ATP1B1, but also the localization of ATP1B1 and then the structure of the epidermal layer. This interaction can be attenuated by inhibitors or competitors, which would result in the reduced delivery of macromolecular drugs across the skin[1].

[1]. Wang C, et al. Role of the Na(+)/K(+)-ATPase beta-subunit in peptide-mediated transdermal drug delivery. Mol Pharm. 2015 Apr 6;12(4):1259-67.

Caution: Product has not been fully validated for medical applications. For research use only.

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