Transdermal Peptide Disulfide TFA

Cat. No.: HY-P1565A

Molecular Formula: $C_{42}H_{65}F_3N_{14}O_{18}S_2$

Molecular Weight: 1175.17

Sequence Shortening: ACSSSPSKHCG (Disulfide bridge: Cys2-Cys10)

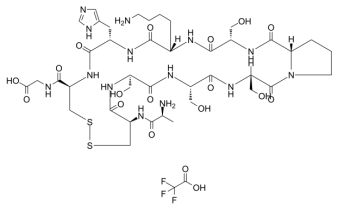
Target: Na+/K+ ATPase

Pathway: Membrane Transporter/Ion Channel

Storage: Sealed storage, away from moisture

Powder	-80°C	2 years
	-20°C	1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (85.09 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8509 mL	4.2547 mL	8.5094 mL
	5 mM	0.1702 mL	0.8509 mL	1.7019 mL
	10 mM	0.0851 mL	0.4255 mL	0.8509 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (85.09 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Transdermal Peptide Disulfide TFA (TD 1 Disulfide(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 Disulfide TFA can enhance the transdermal delivery of many macromolecules[1].

In Vitro

In the presence of Transdermal Peptide Disulfide, because of the specific binding of Transdermal Peptide Disulfide 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 Disulfide molecules may be transported into cells by endocytosis; consequently, the expression of ATP1B1 then decreases. The interaction between Transdermal Peptide Disulfide 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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[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.

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