

Transdermal Peptide Disulfide

Cat. No.:	HY-P1565
CAS No.:	888486-23-5
Molecular Formula:	C ₄₀ H ₆₄ N ₁₄ O ₁₆ S ₂
Molecular Weight:	1061.15
Sequence:	Ala-Cys-Ser-Ser-Ser-Pro-Ser-Lys-His-Cys-Gly (Disulfide bridge:Cys2-Cys10)
Sequence Shortening:	ACSSSPSKHCG (Disulfide bridge:Cys2-Cys10)
Target:	Na ⁺ /K ⁺ ATPase
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Transdermal Peptide Disulfide (TD 1 Disulfide(peptide)) 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 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.

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

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