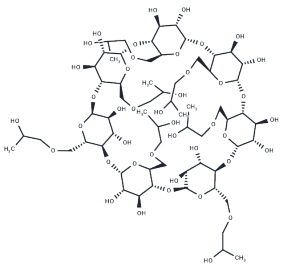
Data Sheet (Cat.No.T19609)

TargetMol

HP-β-CD

Chemical Properties



CAS No. : 128446-35-5

Formula: C63H112O42

Molecular Weight: 1541.547

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	HP-β-CD (Hydroxypropyl betadex) is a water-soluble cyclodextrin derivative obtained by hydroxypropylation of β-cyclodextrin. HP-β-CD serves as a drug delivery carrier that enhances stability and bioavailability.
Targets(IC50)	Others
In vitro	**Methods**: Cheliensisin A native compound and its HP-β-CD inclusion complex (compound:HP-β-CD molar ratio 1:2) were added to SW1116, SMMC-7721, and HEK293T cells. Drug concentration gradient: 0–100 μM. Treatment duration: 24 hours. Cell viability was assessed using the MTT assay. **Results**: The inclusion complex significantly enhanced cytotoxicity against tumor cells. For SW1116 cells, the IC_{50} of the cheliensisin A inclusion complex decreased from 93.2 to 51.4 μM. The inclusion complex also exhibited increased toxicity toward HEK293T cells. [1] **Methods**: Human aortic smooth muscle cells (HASMCs) were treated with HP-β-CD (6, 8, 10 mg/mL) for 24 h, followed by Western blot analysis of apoptosis markers. **Results**: HP-β-CD dose-dependently inhibited VSMC apoptosis. [2]
In vivo	**Methods**: Male C57BL/6J mice were used in a PCSK9/angiotensin II (AngII)-induced AAA model. HP-β-CD (200 μl/mouse) was administered intraperitoneally twice weekly starting at the initiation of AngII infusion, continuing for 4 weeks. **Results**: HP-β-CD significantly reduced the maximum diameter of the abdominal aorta and the incidence of AAA, while also mitigating elastin degradation and VSMC apoptosis. [2]

Solubility Information

Solubility	DMSO: 45.00 mg/mL (29.19 mM),Sonication is recommended. H2O: 50.00 mg/mL (32.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (1.3 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.6487 mL	3.2435 mL	6.487 mL
5 mM	0.1297 mL	0.6487 mL	1.2974 mL
10 mM	0.0649 mL	0.3243 mL	0.6487 mL
50 mM	0.013 mL	0.0649 mL	0.1297 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ma R, et al. Hydroxypropyl-β-Cyclodextrin Complexes of Styryllactones Enhance the Anti-Tumor Effect in SW1116 Cell Line. Front Pharmacol. 2020 Apr 22;11:484.
Lu H, et al. Cyclodextrin Prevents Abdominal Aortic Aneurysm via Activation of Vascular Smooth Muscle Cell Transcription Factor EB. Circulation. 2020 Aug 4;142(5):483-498.