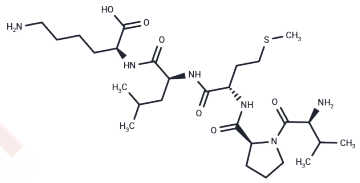
Data Sheet (Cat.No.T10463)

TargetMol

Bax inhibitor peptide V5

Chemical Properties



CAS No. : 579492-81-2

Formula: C27H50N6O6S

Molecular Weight: 586.79

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	Bax inhibitor peptide V5 is a cell-penetrating pentapeptide and an inhibitor of Bax-induced apoptosis that specifically inhibits Bax-mediated mitochondria-dependent apoptosis. Bax inhibitor peptide V5 is primarily used in cancer research.
Targets(IC50)	Apoptosis,Bcl-2 Family
In vitro	Methods: Human alveolar epithelial cell line A549 was treated with Bax inhibitor peptide V5 (200 μM). After 1 hour of pretreatment, bleomycin (120 mU/ml) was added, and the cells were incubated for a total of 24 hours. Cell apoptosis was then assessed. Results: Pretreatment with Bax inhibitor peptide V5 significantly inhibited apoptosis in A549 cells and significantly reduced broleomycin-induced activated Bax expression. [1] Method: Isolated mouse islets, dispersed into single cells, were treated with Bax inhibitor peptide V5 (100 μmol/L) and incubated for 24 hours; apoptosis was assessed by flow cytometry. Results: Bax inhibitor peptide V5 significantly reduced the apoptosis rate of mouse islet cells. [2]
In vivo	Methods: To investigate the effects of the Bax inhibitor peptide V5 on bleomycin-induced lung injury, female C57BL/6J mice were used. Bleomycin (2 U/kg) and BIP-V5 (4 μmol/mouse) were administered intratracheally in a single dose (Day 0), and the animals were observed for 14 days. Results: The 14-day cumulative survival rate was 75% in the Bax inhibitor peptide V5 group and 25% in the negative control peptide group, indicating a significant improvement in bleomycin-induced lung injury. [1] Methods: To investigate the effects of Bax inhibitor peptide V5 combined with FGF-2 on early post-transplant islet survival, apoptosis, and inflammatory factors in the early post-transplant period, STZ-induced diabetic Balb/c mice were used. Bax inhibitor peptide V5 (100 μmol/L) and FGF-2 (100 ng) were encapsulated in gelatin microspheres, mixed with islets (150 IEQ), and transplanted subcapsularly into the kidney. PCR was performed 2 days later, and tissue was harvested 3 days later. Results: The Bax inhibitor peptide V5 significantly improved the function of isolated islets in the mouse model and enhanced the function of transplanted islets.[2]

Solubility Information

Solubility	H2O: 80 mg/mL (136.33 mM),Sonication is recommended. DMSO: 80 mg/mL (136.33 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 (3.41 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 vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7042 mL	8.5209 mL	17.0419 mL
5 mM	0.3408 mL	1.7042 mL	3.4084 mL
10 mM	0.1704 mL	0.8521 mL	1.7042 mL
50 mM	0.0341 mL	0.1704 mL	0.3408 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

Suzuki K, Yanagihara T, Yokoyama T, et al. Bax-inhibiting peptide attenuates bleomycin-induced lung injury in mice. Biol Open. 2017;6(12):1869-1875. Published 2017 Dec 15.

Mao R, Zhu Z, Yang F, et al.Picornavirus VP3 protein induces autophagy through the TP53-BAD-BAX axis to promote viral replication.Autophagy.2024: 1-20.

Rivas-Carrillo JD, et al. Cell-permeable pentapeptide V5 inhibits apoptosis and enhances insulin secretion, allowing experimental single-donor islet transplantation in mice. Diabetes. 2007 May;56(5):1259-67. Epub 2007 Feb 7.

Jo MJ, et al. Regulation of cancer cell death by a novel compound, C604, in a c-Myc-overexpressing cellular environment. Eur J Pharmacol. 2015 Dec 15;769:257-65.