Product Name: Bax inhibitor peptide V5

Revision Date: 6/30/2016

Product Data Sheet

Chemical Properties

Product Name: Bax inhibitor peptide V5

Cas No.: 579492-81-2

M.Wt: 586.79

Formula: C27H50N6O6S

Chemical Name: (S)-6-amino-2-((Z)-((S)-2-((Z)-((S)-2-((Z)-(((S)-1-((S)-2-amino-3-methylbutanoyl)pyrrolidin-2-yl)(hydroxy)methylene)amino)-1-hydroxy-4-(methylthio)butylidene)amino)-1-hydroxy-4-methylpentylidene)amino)hexanoic acid

Canonical SMILES: CC(C[C@@](/N=C(O)/[C@](/N=C(O)/[C@]1([H])CCCN1C([C@](N)([H])C(C)C)=O)([H])CCSC)([H])/C(O)=N/[C@@](C(O)=O)([H])CCCCN)C

Solubility: >29.4mg/mL in DMSO

Storage: Desiccate 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.

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

Biological Activity

Targets : Apoptosis

Pathways: Bcl-2 Family

Description:

Bax inhibitor peptide V5 (BIP V5) is a peptide inhibitor of Bax translocation to mitochondria [1]. Bax is a pro-apoptotic member of Bcl-2 family proteins and plays an important role in mitochondria-dependent apoptosis. Bax stays in the cytosol and transfers into mitochondria after apoptotic stimuli [1].

BIP V5 is a membrane-permeable peptide inhibitor of Bax translocation to mitochondria. In HeLa cells, BIP V5 protected cells from UVC- and STS-induced apoptosis. In U87-MG glioma cells, MCF-7 breast cancer cells and LNCaP prostate cancer cells, BIP V5 also inhibited apoptosis induced by anti-cancer drugs cisplatin, etoposide and doxorubicin. While BIP V5 did not suppress UVC- or STS-induced apoptosis in Bax-deficient cells (DU145), which suggested BIP V5 only suppressed Bax-mediated apoptosis. Also, BIP (V5) inhibited Bax translocation to mitochondria stimulated by UVC irradiation and STS treatment. The caspase activation and the release of cytochrome c from mitochondria triggered by apoptotic stimuli were also significantly inhibited by BIP V5. BIP V5 inhibited the interaction of Ku70 and endogenous Bax in a dose-dependent way [1].
In a mouse model, BIP V5 increased expression of anti-apoptotic proteins XIAP and Bcl-2 by more than 11- and 3-fold and reduced expression of apoptosis-inducing proteins Bax, Bad, and nuclear factor-κ B-p65 by 10, 30, and nearly 50%, respectively. Also, BIP V5 increased glucose-responsive insulin secretion [2].

***Reference**:*

[1]. Sawada M, Hayes P, Matsuyama S. Cytoprotective membrane-permeable peptides designed from the Bax-binding domain of Ku70. Nat Cell Biol, 2003, 5(4): 352-357.
[2]. Rivas-Carrillo JD, Soto-Gutierrez A, Navarro-Alvarez N, et al. Cell-permeable pentapeptide V5 inhibits apoptosis and enhances insulin secretion, allowing experimental single-donor islet transplantation in mice. Diabetes, 2007, 56(5): 1259-1267.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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