Product Data Sheet

Chemical Properties

Product Name: SNX-2112

Cas No.: 908112-43-6

M.Wt: 464.48

Formula: C23H27F3N4O3

Chemical Name: 4-[6,6-dimethyl-4-oxo-3-(trifluoromethyl)-5,7-dihydroindazol-1-yl]-2-[(4-hydroxycyclohexyl)amino]benzamide

Canonical SMILES: CC1(CC2=C(C(=O)C1)C(=NN2C3=CC(C=C3)C(=O)N)NC4CCC(CC4)O)C(F)(F)F)C

Solubility: ≥23.05 mg/mL in DMSO, ≥9.6 mg/mL in EtOH with ultrasonic and warming, <2.16 mg/mL in H2O

Storage: Store 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: Proteases

Pathways: HSP

Description:

SNX-2112 is a potent inhibitor of synthetic heat shock protein (Hsp 90) with IC50 value of 30 nM.[1] HSP90 (heat shock proteins) is widely expressed as a molecular chaperone. It plays an important
role in the folding and stabilization of cellular proteins. HSP90 protects client proteins from
degradation and maintains them in an active conformation. Many clients of HSP90 are
transcription factors or protein kinases such as: Bcr-Abl, tyrosine kinases, EGFR family members,
IGF1-R, c-Met, steroid hormone receptors, p53, Mdm2 and telomerase. In a variety of cancers,
overexpressed hsp90 has been detected. Hsp90 also play an important role in maintaining the
transformed phenotype of cancer cell. So, Hsp 90 is one attractive target for cancer therapy.
SNX-2112 is a potent inhibitor of Hsp 90 in different cancer cell lines. In the MTT assay, SNX-2112
inhibited A-375 cells with IC50 values of 1.25 μM at 48h. In the western blot assay, 0.2 M
SNX-2112 significantly reduced several growth-related Hsp90 client proteins such as Akt, p-Akt,
IKKa, B-Raf, Erk1/2, p-Erk1/1, GSK3β and Chk1 in a time-dependent manner after 24h treatment.
In the DAPI staining and the TUNEL assay, conclusive double-stranded DNA fragmentation were
produced after exposure to 0.2 μM SNX-2112.[2] Moreover, in the cell cycle assays, in 3
MET-amplified tumor cell lines (GTL-16, MKN-45 and EBC-1), 50nM SNX-2112 induced G1 arrest
while in higher concentration such as 100 and 1000nM, more cells accumulated in G2 phase.[3]
In pediatric cancer cell lines (SK-N-DZ, SK-N-AS, BE(2)-C, Saos-2, SK-N-SH, and U-2-OS ) SNX-2112
showed inhibition properties at IC50 values ranging from 20-40 nM.[4]

Reference:
1.Chandarlapaty S, et al. SNX2112, a synthetic heat shock protein 90 inhibitor, has potent
2.Kai-Sheng Liu, et al. SNX-2112, an Hsp90 inhibitor, induces apoptosis and autophagy via
180–188
3.Antitumor activity of SNX-2112, a synthetic heat shock protein-90 inhibitor, in MET-amplified
122–133
4.Daniel le C. Chin n,BS, et al. Anti-Tumor Activity of the HSP90 Inhibitor SNX-2112 in Pediatric

Protocol

Cell experiment:

Cell lines nu/nu athymic BALB/c female mice

Preparation method The solubility of this compound in DMSO is > 23.05 mg/mL. General
tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a
while. Stock solution can be stored below -20°C for several months.

Reacting conditions

Applications Treatment of BT-474 cells with 1 μmol/L SNX-2112 resulted in
down-regulation of HER2 expression within 3 to 6 h of drug
exposure with near-complete loss of HER2 expression by 10 h.
SNX-2112 induced Hsp90 client degradation, inhibited Erk and Akt
activation, and induced apoptosis in HER2-overexpressing cells. In a
panel of breast, lung, and ovarian cancer cell lines, SNX-2112 inhibited cell proliferation with IC50 values ranging from 10 to 50 nmol/L. In BT-474 cells (HER2 amplified, breast cancer), the antiproliferative effect of SNX-2112 was associated with hypophosphorylation of Rb, arrest in G1, and modest levels of apoptosis. SNX-2112 induced autophagy in a time- and dose-dependent manner via Akt/mTOR/p70S6K inhibition. SNX-2112 induced significant apoptosis and autophagy in human melanoma A-375 cells. SNX-2112 (72 h) induced apoptosis in human chronic leukemia K562 cells with the IC50 of 0.92 μM.

Animal experiment [3]:

Animal models | K562-NOD/SCID mice
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Dosage form | 6 mg/kg, tail vain injection from days 5–9 and days 12–16
Applications | SNX-2112 showed therapeutic effect on NOD/SCID mice inoculated with K562 cells. SNX-2112 treatment prolonged survival of NOD/SCID mice inoculated with K562 cells.
Other notes | Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

Product Citations

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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