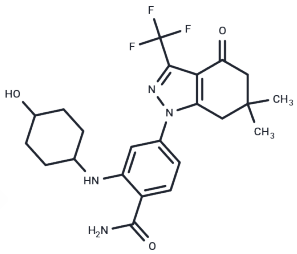
# Data Sheet (Cat.No.T6305)

TargetMol

SNX2112

## Chemical Properties



CAS No. : 908112-43-6

Formula: C23H27F3N4O3

Molecular Weight: 464.48

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

## Biological Description

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| Description | SNX2112 (PF 04928473) is an orally active Hsp90 inhibitor, with a Kd of 16 nM. |
| Targets(IC50) | HSP |
| In vitro | Treatment of BT-474 cells with 1 μM SNX-2112 results in down-regulation of HER2 expression within 3 to 6 hours of drug exposure with near-complete loss of HER2 expression by 10 hours. Treatment with SNX-2112 also results in a decline in total Akt expression. SNX-2112 inhibits cell proliferation with IC50 values ranging from 10 to 50 nM, in BT474, SKBR-3, SKOV-3, MDA-468, MCF-7 and H1650 cancer cells. And these antiproliferative effects are associated with hypophosphorylation of Rb, arrest of G1 and modest levels of apotosis. [1] SNX-2112 competitively binds to the N-terminal adenosine triphosphate binding site of Hsp90. SNX-2112 induces apoptosis via caspase-8, -9, -3, and poly (ADPribose) polymerase cleavage. SNX-2112 inhibits cytokine-inducedAkt and extracellular signal-related kinase (ERK) activation and also overcomes the growth advantages conferred by interleukin-6, insulin-like growth factor-1, and bone marrow stromal cells. SNX-2112 inhibits tube formation by human umbilical vein endothelial cells via abrogation of eNOS/Akt pathway and markedly inhibits osteoclast formation via down-regulation of ERK/c-fos and PU.1. [2] Cell lines (eight cell lines from osteosarcoma, neuroblastoma, hepatoblastoma, and ymphoma) studied demonstrates sensitivity to SNX-2112 with IC50 values ranging from 10-100?nM. A higher dose (70?nM) exhibits a more prolonged inhibition and larger sub-G1 accumulation. Observed levels of Akt1 and C-Raf are markedly reduced over time along with an increase in PARP cleavage. [3] A recent research indicates NX-2112 induces autophagy in a time- and dose-dependent manner via Akt/mTOR/p70S6K inhibition. SNX-2112 induces significant apoptosis and utophagy in human melanoma A-375 cells, and may be an effective targeted therapy agent. [4] |
| In vivo | SNX-2112, delivered by its prodrug SNX-5422, inhibits MM cell growth and prolongs survival in a xenograft murine model and blockade of Hsp90 by SNX-2112 not only inhibits MM cell growth but also acts in the bone marrow microenvironment to block angiogenesis and osteoclastogenesis. [2] |
| Kinase Assay | ATP Displacement Assay: For the protein affinity-displacement assay, a purine-based affinity resin is generated by incubating ATP-linked Sepharose with Jurkat cell lysate (flash frozen and homogenized in saline) at 4 °C. This is then incubated with SNX-2112 for 90 minutes. Proteins eluted by drug are then resolved by SDS-PAGE, visualized with |

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| | silver staining, and excised from the gel for MS-based identification. Briefly, after destaining and trypsin digestion, peptides are extracted with μC18 ZipTips and then eluted and spotted directly to a conventional stainless steel matrix-assisted laser desorption/ionization target with a saturated solution of α-cyano-4- hydroxycinnamic acid in 50% acetonitrile, 0.15% formic acid. Mass spectra are then acquired using a MALDI-TOF/TOF 4700 Proteomics Analyzer. MS spectra are acquired (1,000 shots per spectrum), and the three peaks from each with the greatest signal-to-noise ratio are automatically submitted for tandem MS analysis (3000 shots per spectrum). The collision energy is 1keV. Air is used as the collision gas. Protein identification is done from the MS and tandem MS data using GPS Explorer software with the integrated Mascot database search engine. |
| Cell Research | Cell viability is determined by seeding 2-5 × 103 cells per well in 96- well plates and treating with SNX-2112 24 hours after plating in complete medium (200 μL). Each drug concentration is tested in eight wells. Cells are assayed using the Alamar blue viability test after a 96-h incubation. Flow cytometry is done using nuclei stained with ethidium bromide and isolated via the Nusse protocol(Only for Reference) |

## Solubility Information

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| Solubility | Ethanol: 1 mg/mL (2.15 mM),Sonication is recommended.<br>DMSO: 86 mg/mL (185.15 mM),Sonication is recommended.<br>H2O: < 1 mg/mL (insoluble or slightly soluble),<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.1529 mL | 10.7647 mL | 21.5295 mL |
| 5 mM | 0.4306 mL | 2.1529 mL | 4.3059 mL |
| 10 mM | 0.2153 mL | 1.0765 mL | 2.1529 mL |
| 50 mM | 0.0431 mL | 0.2153 mL | 0.4306 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.

Reference

Chandarlapaty S, et al, Clin Cancer Res, 2008, 14(1), 240-248.
Zhao D, Xu Y M, Cao L Q, et al. Complex Crystal Structure Determination and in vitro Anti-non-small Cell Lung Cancer Activity of Hsp90N Inhibitor SNX-2112. Frontiers in cell and developmental biology. 2021, 9: 567.
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Okawa Y, et al, Blood, 2009, 113(4), 846-855.
Chinn DC, et al, Pediatr Blood Cancer, 2012, 58(6), 885-890.
Wang Z, Zou W, Zeng Q, et al.Novel Hsp90α inhibitor inhibits HSV-1 infection by suppressing the Akt/β-catenin pathway.International Journal of Antimicrobial Agents.2025: 107448.
Liu KS, et al, Cancer Lett, 2012, 318(2), 180-188.

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