Product Datasheet

STX-721

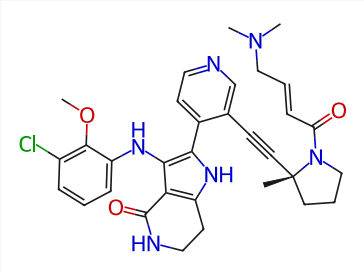
Catalog No. **BP-02053** · CAS **2765525-82-2** · Form **free base** · Physical state **solid** · Color **Off-white to light yellow** · Version **1.0** · Revision **2026-09-14**

FOR RESEARCH USE ONLY. NOT FOR HUMAN OR VETERINARY USE.

Target	Research area
EGFR; ERK	**Cancer**

Molecular formula	$C_{32}H_{35}ClN_6O_3$
Molecular weight	**587.1120**

STRUCTURE



DESCRIPTION

STX-721 is a mutant-selective inhibitor of EGFR and HER2 Exon 20 insertion (ex20ins) mutants.

BIOLOGICAL ACTIVITY

In Vitro

STX-721 (10-1000 nM, 2 h) inhibits phosphorylation of EGFR (pEGFR Y1068) and ERK (pERK Thr202/Tyr204) in patient-derived EGFR exon 20 insertion-mutant cell lines (MGH10080-1 SVD, MGH10022-1.19 GF) with higher potency than in EGFR WT NCI-H2073 cells.

STX-721 (72 h) shows antiproliferative activity in CRISPR/Cas9-edited NCI-H2073 human cancer cell lines, with IC50 values of 10.1 nM for NCI-H2073 EGFR V769_D770 insASV knock-in (KI) cells and 6.1 nM for NCI-H2073 EGFR D770_N771 insSVD KI cells.

In Vivo

STX-721 (12.5-100 mg/kg, p.o., once daily, 20-42 days) demonstrates excellent anti-tumor efficacy in EGFR ex20ins-mutant PDX/CDX models.

SOLUBILITY

Soluble in DMSO : 100 mg/mL

REFERENCES

[1]. Pagliarini RA, et al. STX-721, a Covalent EGFR/HER2 Exon 20 Inhibitor, Utilizes Exon 20-Mutant Dynamic Protein States and Achieves Unique Mutant Selectivity Across Human Cancer Models. Clin Cancer Res. 2025 Jul 15;31(14):3002-3018.

[2]. Milgram BC, et al. Discovery of STX-721, a Covalent, Potent, and Highly Mutant-Selective EGFR/HER2 Exon20 Insertion Inhibitor for the Treatment of Non-Small Cell Lung Cancer. J Med Chem. 2025 Feb 13;68(3):2403-2421.