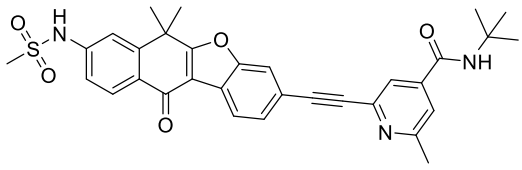
Product data sheet

MedKoo Cat#: 573171 Name: CH7057288 CAS#: 2095616-82-1 Chemical Formula: $C_{32}H_{31}N_3O_5S$ Exact Mass: 569.1984 Molecular Weight: 569.68	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
CH7057288 is a selective TRK inhibitor that may be useful in inhibiting TRK fusion-positive cancer cell growth. TRK receptor tyrosine kinases are expressed as fusion proteins encoded by various fusion genes across a wide variety of cancer types, including lung and colorectal cancer.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	34.0	59.68

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.76 mL	8.78 mL	17.55 mL
5 mM	0.35 mL	1.76 mL	3.51 mL
10 mM	0.18 mL	0.88 mL	1.76 mL
50 mM	0.04 mL	0.18 mL	0.35 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Tanaka H, Sase H, Tsukaguchi T, Hasegawa M, Tanimura H, Yoshida M, Sakata K, Fujii T, Tachibana Y, Takanashi K, Higashida A, Hasegawa K, Ono Y, Oikawa N, Mio T. Selective TRK Inhibitor CH7057288 against TRK Fusion-Driven Cancer. Mol Cancer Ther. 2018 Dec;17(12):2519-2529. doi: 10.1158/1535-7163.MCT-17-1180. Epub 2018 Sep 21. PMID: 30242093.

In vivo study

1. Tanaka H, Sase H, Tsukaguchi T, Hasegawa M, Tanimura H, Yoshida M, Sakata K, Fujii T, Tachibana Y, Takanashi K, Higashida A, Hasegawa K, Ono Y, Oikawa N, Mio T. Selective TRK Inhibitor CH7057288 against TRK Fusion-Driven Cancer. Mol Cancer Ther. 2018 Dec;17(12):2519-2529. doi: 10.1158/1535-7163.MCT-17-1180. Epub 2018 Sep 21. PMID: 30242093.

7. Bioactivity
Biological target:

CH7057288 is a potent and selective TRK inhibitor with IC50 values of 1.1 nM, 7.8 nM and 5.1 nM for TRKA, TRKB, and TRKC respectively.

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In vitro activity

CH7057288's cellular inhibition of TRK activity was investigated using three TRK fusion–positive cancer cell lines. CH7057288 potently inhibited autophosphorylation of TRK in a dose-dependent manner. As for downstream signaling of TRK fusion, phosphorylation of the PLCγ1, MAPK, and Akt pathways were investigated, since these three pathways are known to be involved in TRK. CH7057288 suppressed phosphorylation of PLCγ1 and ERK, although suppression levels varied somewhat in different cell lines, and Akt phosphorylation was slightly inhibited in CUTO-3 but strongly suppressed in KM12-Luc and MO-91. These observations indicate that CH7057288 has inhibitory activity to TRK and blocks TRK fusion–mediated signaling in cells.

Reference: Mol Cancer Ther. 2018 Dec;17(12):2519-2529. https://pubmed.ncbi.nlm.nih.gov/30242093/

In vivo activity

CH7057288 was tested in an intracranial implantation model of CUTO-3-Luc that mimics metastasis to the central nervous system (CNS). Luminescence was reduced after CH7057288 treatment but was enhanced in the vehicle control group, indicating regression of intracranial tumors by the compound. When event-free survival was assessed, survival was significantly prolonged by 30-day CH7057288 treatment compared with vehicle treatment. The CH7057288-treated animals survived throughout the treatment without events, in contrast to the control mice, of which more than half were removed from the experiment by Day 26. Mean survival of the treated group reached 67 days after treatment initiation. These tests collectively show that CH7057288 demonstrated potent in vivo antitumor activity, with reasonable pharmacodynamic response in subcutaneous xenograft models and prolonged event-free survival in an intracranial model.

Reference: Mol Cancer Ther. 2018 Dec;17(12):2519-2529. https://pubmed.ncbi.nlm.nih.gov/30242093/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.