

TRK-IN-33

## Chemical Properties

CAS No. :

Formula:

Molecular Weight:

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

Actual storage temperature shall be subject to the COA.

## Biological Description

Description	TRK-IN-33 is a TRK inhibitor that demonstrates exceptional ability to degrade TRKAG667C (DC50 = 24.69 nM; Dmax > 90%) while not affecting the wild-type protein. It exhibits antiproliferative activity against Ba/F3-LMNA-NTRK1G667C cells carrying NTRK1G667C, with an IC50 of 2.48 nM. TRK-IN-33 effectively inhibits tumor growth in vivo and induces apoptosis in tumor cells without significant toxicity. This compound is suitable for research in NTRK fusion-positive cancers.
Targets(IC50)	Apoptosis,Trk receptor
In vitro	TRK-IN-33 (compound 20) demonstrates excellent degradation efficiency and inhibitory activity against the TRKA G667C resistant mutation in Ba/F3-LMNA-NTRK1 WT cells, which express the wild-type TRKA. It shows degradation rates of -1.16% at 0.1 μM, 69.30% at 1 μM, and 68.75% at 10 μM, with an IC50 of 23.8 nM. Additionally, TRK-IN-33 (0.1-10 μM, treated for 24 hours) exhibits good dose-dependent degradation of the TRKA G667C mutant protein in Ba/F3-LMNA-NTRK1 G667C cells. In pharmacokinetic studies, TRK-IN-33 (1 μM) exhibits favorable properties in CD-1 mice, SD rats, and human liver microsomes, with half-lives (T1/2) of 24.8, 53.8, and 57.1 minutes, and intrinsic clearance (CLint) values of 0.0683, 0.0599, and 0.0230 mL/min/mg, respectively.
In vivo	TRK-IN-33 (compound 20) administered at doses of 30 or 50 mg/kg via intraperitoneal injection, twice daily for 28 consecutive days, successfully overcomes TRK resistance driven by the G667C mutation in a Ba/F3-LMNA-NTRK1 G667C mouse xenograft model, demonstrating good tolerability and safety.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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