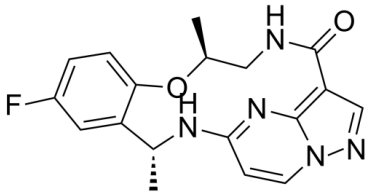
Data Sheet

Product Name:	Repotrectinib
Cat. No.:	CS-7628
CAS No.:	1802220-02-5
Molecular Formula:	$C_{18}H_{18}FN_5O_2$
Molecular Weight:	355.37
Target:	Anaplastic lymphoma kinase (ALK); ROS Kinase; Trk Receptor
Pathway:	Neuronal Signaling; Protein Tyrosine Kinase/RTK
Solubility:	DMSO : 25 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Repotrectinib (TPX-0005) is a potent **ROS1** (**IC_{50}**=0.07 nM) and **TRK** (**IC_{50}**=0.83/0.05/0.1 nM for TRKA/B/C) inhibitor. Repotrectinib potently inhibits WT **ALK** (**IC_{50}**=1.01 nM). Repotrectinib has anti-cancer activity[1][2]. IC50 & Target:IC50: 0.07 nM (ROS1), 0.83/0.05/0.1 nM (TRKA/B/C), 1.01 nM (ALK), 1.04 nM (JAK2), 1.66 nM (LYN), 5.3 nM (Src), 6.96 nM (FAK)[1][2] ***In Vitro:*** Repotrectinib (TPX-0005) inhibits mutant ALKs including ALK G1202R (IC_{50}=1.26 nM) and ALK L1196M (IC_{50}=1.08 nM). Repotrectinib also inhibits a variety of other kinases, including JAK2, LYN, Src, and FAK (IC_{50}=1.04, 1.66, 5.3, and 6.96 nM, respectively)[1].

Repotrectinib effectively overcomes this primary resistance (IC_{50}=100 nM in cell proliferation assay) with strong inhibition of the phosphorylation of EML4-ALK (IC_{50}=13 nM) and the SRC substrate paxillin (IC_{50}=107 nM). Repotrectinib inhibits H2228 cell migration in a wound healing assay with similar activity to saracatinib[1]. ***In Vivo:*** Repotrectinib (TPX-0005) effectively inhibits tumor growth in vivo in ALK WT and ALK G1202R xenografts[1].

References:

[1]. Dayong Zhai, et al. Abstract 2132: The novel, rationally-designed, ALK/SRC inhibitor TPX-0005 overcomes multiple acquired resistance mechanisms to current ALK inhibitors. Cancer Research. July 2016

[2]. Karachaliou N, et al. Common Co-activation of AXL and CDCP1 in EGFR-mutation-positive Non-smallcell Lung Cancer Associated With Poor Prognosis. EBioMedicine. 2018 Mar;29:112-127.

CAIndexNames:

1,15-Etheno-1H-pyrazolo[4,3-f][1,4,8,10]benzoxatriazacyclotridecin-4(5H)-one, 11-fluoro-6,7,13,14-tetrahydro-7,13-dimethyl-, (7S,13R)-

SMILES:

O=C1NC[C@H](C)OC2=CC=C(F)C=C2[C@@H](C)NC3=NC4=C1C=NN4C=C3

Caution: Product has not been fully validated for medical applications. For research use only.

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