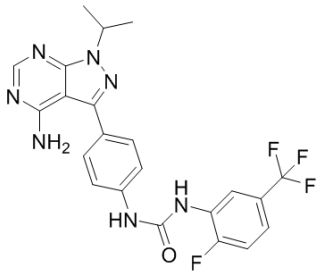
AD80

Cat. No.:	HY-101963
CAS No.:	1384071-99-1
Molecular Formula:	$C_{22}H_{19}F_4N_7O$
Molecular Weight:	473.43
Target:	Raf; Src; Ribosomal S6 Kinase (RSK); RET
Pathway:	MAPK/ERK Pathway; Protein Tyrosine Kinase/RTK
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 150 mg/mL (316.84 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1122 mL	10.5612 mL	21.1224 mL
5 mM	0.4224 mL	2.1122 mL	4.2245 mL
10 mM	0.2112 mL	1.0561 mL	2.1122 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

AD80, a multikinase inhibitor, inhibits RET, RAF,SRCand S6K, with greatly reduced mTOR activity.

IC_{50} & Target

RAF	RET	SRC

In Vitro

AD80 is a polypharmacological agent with an optimal balance of activity against Ret, Raf, Src, Tor and S6K that show high efficacy with very low toxicity. AD80 and AD81 inhibits RET, RAF, SRC and S6K, with greatly reduced mTOR activity relative to AD57 and AD58.AD80 is optimal for Ras–Erk pathway inhibition. AD80 inhibits proliferation of MZ-CRC-1 and TT thyroid cancer cells in culture, probably through the induction of apoptosis. Immunoblot analysis demonstrates potent downregulation of phosphorylated Ret and several downstream biomarkers within these cells[1]. AD80 coordinately inhibits S6K1 together with the TAM family tyrosine kinase AXL.AD80 avoides S6K1 phosphorylation and mTOR co-association, resulting in durable suppression of S6K1-induced signaling and protein synthesis[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Oral administration of either AD80 or AD81 results in a notable 70-90% of animals developing to adulthood in Drosophila

	ptc>dRet^{MEN2B}model, a considerable improvement over the efficacy observed with AD57. AD80 also promotes enhanced tumour growth inhibition and reduces body-weight modulation relative to vandetanib in a mouse xenograft model[1]. AD80 rescues 50% of mice transplanted with PTEN-deficient leukemia cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	MZ-CRC-1 (MEN2B) and TT (MEN2A) cells are treated with AD80 (0.2 nM to 20 μM) for 7 days and cell viability is quantitated by MTT assay[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Mice: Mice showing established growing tumors are separated into vehicle or drug treatment groups. A similar range of tumor sizes is selected for each experiment (vehicle vs AD57; vehicle vs AD80 vs Vandetanib). Vehicle, AD57 (20 mg/kg), AD80 (30 mg/kg), or Vandetanib (50mg/kg) are administered by oral gavage (PO; per os or by mouth) once daily, five times a week. Tumor and body weight measurements are performed 3 times a week[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Dar AC, et al. Chemical genetic discovery of targets and anti-targets for cancer polypharmacology.Nature. 2012 Jun 6;486(7401):80-4.

[2]. Liu H, et al. Pharmacologic Targeting of S6K1 in PTEN-Deficient Neoplasia.Cell Rep. 2017 Feb 28;18(9):2088-2095.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA