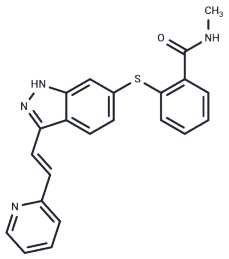
Data Sheet (Cat.No.T1452)

TargetMol

Axitinib

Chemical Properties



CAS No. : 319460-85-0

Formula: C22H18N4OS

Molecular Weight: 386.47

Storage: Store at low temperature,Keep away from moisture,
Keep away from direct sunlight
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	Axitinib (AG-013736) is a multi-targeted tyrosine kinase inhibitor that inhibits VEGFR1, VEGFR2, VEGFR3, and PDGFRβ (IC50=4/20/0.4/2 nM). Axitinib has antitumor activity and is used in the treatment of renal cell carcinoma.
Targets(IC50)	c-Kit,PDGFR,VEGFR
In vitro	**METHODS**: Thirteen neuroblastoma cells were treated with Tepotinib for 72 h and cell viability was measured by MTT assay. **RESULTS**: All cells showed reduced cell viability with IC50 values ranging from 2.4-8.5 μM.[1] **METHODS**: EBC-1 cells were treated with Tepotinib (0-30 μmol/L) for 3 days, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: Tepotinib treatment induced a significant reduction in c-Met constitutive phosphorylation in EBC-1 cells with an IC50 of 9 nmol/L. Tepotinib also effectively blocked the phosphorylation of the major downstream effectors of the c-Met enzyme in EBC-1, MKN-45, and Hs746T cells in the 1-10 nmol/L range. [2]
In vivo	**METHODS**: To assay antitumor activity in vivo, Tepotinib (5-15 mg/kg) was injected once daily for 14 days into CD-1 mice bearing EBC-1 xenografts. **RESULTS**: Administration of 5 or 15 mg/kg of Tepotinib daily to mice bearing EBC-1 tumors effectively inhibited or completely regressed the tumors, respectively. [2]
Kinase Assay	Porcine aorta endothelial (PAE) cells overexpressing full-length VEGFR-2, PDGFR-β, KIT, and NIH-3T3 overexpressing murine VEGFR-2 (Flk-1) or PDGFR-α were generated as described previously. The ELISA capture plates were prepared by coating 96-well ReactiBind plates with 100 μL/well of 2.5 μg/mL anti-VEGFR-2 antibody, 0.75 μg/mL anti-PDGFR-β antibody, 0.25 μg/mL anti-PDGFR-α antibody, 0.5 μg/mL anti-KIT antibody, or 1.20 μg/mL anti-Flk-1 antibody. Measurement of RTK phosphorylation by ELISA was done as described previously [1].
Cell Research	Endothelial or tumor cells were starved for 18 h in the presence of either 1% FBS (HUVEC) or 0.1% FBS (tumor cells). Axitinib was added and cells were incubated for 45 min at 37° C in the presence of 1 mmol/L Na3VO4. The appropriate growth factor was added to the cells, and after 5 min, cells were rinsed with cold PBS and lysed in the lysis buffer and a protease inhibitor cocktail. The lysates were incubated with immunoprecipitation antibodies for the intended proteins overnight at 4°C. Antibody complexes were

Cell Research	conjugated to protein A beads and supernatants were separated by SDS-PAGE. The Super Signal West Dura kit was used to detect the chemiluminescent signal [1].
Animal Research	AG-013736, a receptor kinase inhibitor of VEGFRs and, at higher doses, PDGFRs (IC50 = 0.1 nmol/L for VEGFR-1, 0.2 nmol/L for VEGFR-2, 0.1–0.3 nmol/L for VEGFR-3, and 1.6 nmol/L for PDGFRβ; ref. 18), was provided by Pfizer Global Research and given once daily by gavage in a volume of 0.13 mL. Control animals received 0.5% carboxymethylcellulose drug carrier. Irradiations were done on nonanesthetized mice using a 137Cs source operating at 2.4 Gy/min. Mice were confined to plastic jigs with tumor-bearing legs extended through an opening in the side, allowing local irradiations. Fractionated doses were given in five daily 2 Gy fractions per week (omitting weekends). For combination treatments, radiotherapy was delivered first, and AG-013736 was given within ~4 h. Mice were sacrificed, and tumors were excised and then quick frozen (using liquid nitrogen) following 1, 2, or 3 weeks of treatment [3].

Solubility Information

Solubility	DMSO: 23.2 mg/mL (60.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.18 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5875 mL	12.9376 mL	25.8752 mL
5 mM	0.5175 mL	2.5875 mL	5.175 mL
10 mM	0.2588 mL	1.2938 mL	2.5875 mL
50 mM	0.0518 mL	0.2588 mL	0.5175 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Morelli MB, et al. Axitinib induces senescence-associated cell death and necrosis in glioma cell lines: The proteasome inhibitor, bortezomib, potentiates axitinib-induced cytotoxicity in a p21(Waf/Cip1) dependent manner. Oncotarget. 2017 Jan 10;8(2):3380-3395.
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Wei N, Liang J, Peng S, et al. Design, synthesis, and biological evaluation of axitinib derivatives[J]. Molecules. 2018 Mar 23;23(4).
Wei R, Ma Q, Li T, et al. Carbazole alkaloids with antiangiogenic activities from Clausena sanki[J]. Bioorganic chemistry. 2018 Apr;77:387-392.