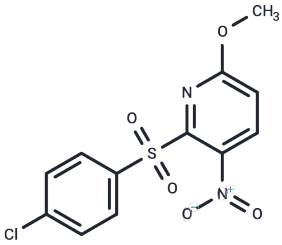
Data Sheet (Cat.No.T5481)

TRi-1

Chemical Properties



CAS No. : 246020-68-8

Formula: C12H9ClN2O5S

Molecular Weight: 328.73

Appearance: Solid

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

Biological Description

Description	TRi-1 is irreversible inhibitor of cytosolic thioredoxin reductase 1 (TXNRD1), with an IC50 of 12 nM. TRi-1 has little mitochondrial toxicity for anticancer therapy
Targets(IC50)	Others,JNK,p38 MAPK
In vitro	TRi-1, impaired growth and viability of human tumor xenografts and syngeneic mouse tumors while having little mitochondrial toxicity and being better tolerated than auranofin.
In vivo	The anticancer efficacy of TRi-1 in mouse tumor models is consistent with the idea that TXNRD1 is important for cancer cell growth in vivo
Animal Research	Fox Chase male SCID mice were treated once with TRi-1 (0.7 to 10 mg/kg) or TRi-2 (0.5 to 20 mg/kg) via intravenous injections, and mouse health status was observed for up to 72 hours. For repeateddose toxicity studies with tumor-bearing animals, mice were first inoculated with 1*10^6 FaDu cells in phosphate-buffered saline at a preshaved region located at the anterior lateral thoracic wall . After 13 days of growth, tumors were measured by calipers, and treatments were initiated. Mice were injected with TRi-1 (10 mg/kg), TRi-2 (15 mg/kg), auranofin (10 mg/kg), or vehicle a total of nine times during a 5-day span via intravenous tail injection. Upon the final day of dosing, injections were performed subcutaneously due to hematomas in several of the mice at the tail injection site. Mouse health status was monitored daily, weight was measured, and tumor volume was recorded from caliper measurements.

Solubility Information

Solubility	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.08 mM),Sonication is recommended. DMSO: 62.5 mg/mL (190.13 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.042 mL	15.2101 mL	30.4201 mL
5 mM	0.6084 mL	3.042 mL	6.084 mL
10 mM	0.3042 mL	1.521 mL	3.042 mL
50 mM	0.0608 mL	0.3042 mL	0.6084 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.

Reference

Stafford WC, et al. Irreversible inhibition of cytosolic thioredoxin reductase 1 as a mechanistic basis for anticancer therapy. Sci Transl Med. 2018 Feb 14;10(428). pii: eaaf7444.