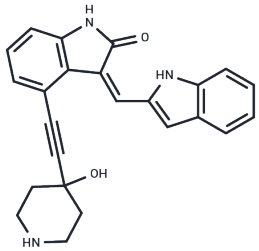
Data Sheet (Cat.No.T61663)

TargetMol

SBI-581

Chemical Properties



CAS No. :

Formula: C24H21N3O2

Molecular Weight: 383.44

Storage: Keep away from moisture,Store at low temperature
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	SBI-581 is an orally active, selective inhibitor of the serine/threonine kinase TAO3 with an IC_{50} value of 42 nM and antitumor activity. SBI-581 promotes the accumulation of TKS5α in RAB11-positive vesicles and inhibits the formation of invasive pseudopods, thereby suppressing the invasive and migratory capabilities of tumor cells. The pharmacokinetic profile of SBI-581 following intraperitoneal administration in mice is reasonable.
Targets(IC50)	Serine Protease
In vitro	Methods: C8161.9 (human melanoma cells) were treated with SBI-581 (100 nM) for 2 days, and tumor spheroid size was assessed using phalloidin labeling. Results: SBI-581 significantly inhibited tumor spheroid growth. [1] Method: SBI-581 (1 μmol/L) was added to ECA109 and KYSE150 cells and incubated for 24 h; apoptosis was assessed by flow cytometry. Results: SBI-581 effectively induced apoptosis in ECA109 and KYSE150 cells. [2]
In vivo	Methods: To investigate the in vivo antitumor effects of SBI-581, a subcutaneous C8161.9 tumor model was established in nude mice. Following tumor formation, intraperitoneal administration (10 mg/kg/day) was initiated once daily for 10 consecutive days. Results: SBI-581 significantly inhibited tumor growth (volume reduction of approximately 70%) without affecting body weight. [1] Methods: To investigate the efficacy of the combination therapy of SBI-581 and cisplatin, a tumor model was established by subcutaneous inoculation of ECA109 cells into BALB/c nude mice. After tumor formation, intraperitoneal administration of SBI-581 (10 mg/kg/day) and cisplatin (3 mg/kg every 2 days) was initiated and continued for 14 days. Results: SBI-581 effectively inhibited tumor growth as a single agent, and the combination with cisplatin produced a stronger effect.[2]

Solubility Information

Solubility	DMSO: 40 mg/mL (104.32 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.608 mL	13.0398 mL	26.0797 mL
5 mM	0.5216 mL	2.608 mL	5.2159 mL
10 mM	0.2608 mL	1.304 mL	2.608 mL
50 mM	0.0522 mL	0.2608 mL	0.5216 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

Iizuka S, et al. Serine-Threonine Kinase TAO3-Mediated Trafficking of Endosomes Containing the Invadopodia Scaffold TKS5α Promotes Cancer Invasion and Tumor Growth. Cancer Res. 2021;81(6):1472-1485.
Sun M, et al. TAOK3 Facilitates Esophageal Squamous Cell Carcinoma Progression and Cisplatin Resistance Through Augmenting Autophagy Mediated by IRGM. Adv Sci (Weinh). 2023;10(29):e2300864.