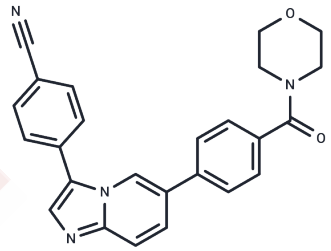
Data Sheet (Cat.No.T15250)

TargetMol

ETC-206

Chemical Properties



CAS No. : 1464151-33-4

Formula: C25H20N4O2

Molecular Weight: 408.45

Storage: 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	ETC-206 is a selective inhibitor of MNK1 and MNK2 (IC50s: 64 nM and 86 nM).
Targets(IC50)	MNK
In vitro	ETC-206's anti-proliferative effects were evaluated in vitro across 25 hematological cancer cell lines, including K562 cells overexpressing eIF4E (K562 o/e eIF4E), through a CellTiter-Glo viability assay. The compound efficiently inhibited eIF4E phosphorylation in the HeLa cell line, showing an IC50 of 321 nM. Its IC50 values across other cell lines, including SU-DHL-6, GK-5, MC 116, P3HR-1, DOHH2, MPC-11, Ramos.2G6.4C10, AHH-1, and K562 o/e eIF4E, ranged from 1.71 μM to 48.8 μM, demonstrating varying degrees of efficacy against these cancer cells.
In vivo	The antitumor efficacy of ETC-206 was evaluated in a K562 e/o eIF4E mouse xenograft model via oral doses of 25, 50, or 100 mg/kg, either as a standalone treatment or in combination with a consistent 2.5 mg/kg dose of Dasatinib throughout the study. Remarkably, when combined with Dasatinib, ETC-206 not only enhanced tumor growth inhibition in a dose-responsive manner but also resulted in tumor clearance in 2, 5, and 8 out of 8 mice at doses of 25, 50, and 100 mg/kg, respectively. This combination effectively suppressed tumor growth across all tested concentrations without causing weight loss in the animals. Independently, ETC-206's maximum tumor growth inhibition (TGI) was recorded at 23% with the highest dose of 100 mg/kg, a result that was unable to significantly halt tumor progression, aligning closely with outcomes observed in untreated controls. Moreover, both the combination of ETC-206 and Dasatinib and the integration of dual MNK1/2 and BCR-ABL1 inhibitors demonstrated preventative effects on tumor development within this mouse xenograft model. Additionally, ETC-206 displayed a moderate terminal elimination half-life (t1/2=1.7 h, and 1.77 h for mouse (1 mg/kg, intravenous [i.v.]), mouse (5 mg/kg, oral [p.o.])).

Solubility Information

Solubility	DMSO: 55 mg/mL (134.66 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: 5 mg/mL (12.24 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	2.4483 mL	12.2414 mL	24.4828 mL
5 mM	0.4897 mL	2.4483 mL	4.8966 mL
10 mM	0.2448 mL	1.2241 mL	2.4483 mL
50 mM	0.049 mL	0.2448 mL	0.4897 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

Yang H, et al. Optimization of Selective Mitogen-Activated Protein Kinase Interacting Kinases 1 and 2 Inhibitors for the Treatment of Blast Crisis Leukemia. J Med Chem. 2018 May 24;61(10):4348-4369.