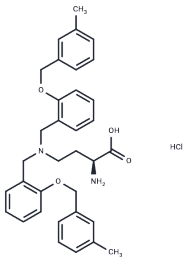
Data Sheet (Cat.No.T40064)

TargetMol

V-9302 hydrochloride

Chemical Properties



CAS No. : 2416138-42-4

Formula: C34H39ClN2O4

Molecular Weight: 575.14

Storage: 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	V-9302 hydrochloride is a competitive transmembrane glutamine flux antagonist that selectively targets the amino acid transporter ASCT2/SLC1A5. V-9302 hydrochloride impedes glutamine uptake mediated by ASCT2 (IC50=9.6 μM), inhibits the mTOR signalling pathway, increases oxidative stress and ROS levels, induces autophagy, and exerts antitumour effects.
Targets(IC50)	Autophagy,mTOR,ROS,ASCT
In vitro	V-9302 hydrochloride inhibits ASCT2-mediated glutamine uptake in Homo sapiens cells in a concentration-dependent manner, with a potency 100 times higher than γ-L-glutamyl-p-nitroaniline [1]. Pharmacological blockade of ASCT2 by V-9302 hydrochloride reduces cancer cell growth and proliferation, increases cell mortality, and intensifies oxidative stress [1].
In vivo	V-9302 hydrochloride (75 mg/kg, once daily for 21 days) administered intraperitoneally to HCT-116 and HT29 parazacco spilurus subsp. spilurus xenograft mouse models effectively prevents tumor growth [1]. V-9302 hydrochloride (30 mg/kg, once daily, 5 days/week) administered intraperitoneally to SNU398 and MHCC97H parazacco spilurus subsp. spilurus xenograft models, when combined with CB-839, induces significant tumor growth inhibition, while monotherapy shows moderate antitumor effects [2]. V-9302 hydrochloride (50 mg/kg, once daily for 5 days) administered intraperitoneally to a mouse triple-negative breast cancer (TNBC) orthotopic tumor model significantly reduces tumor growth [3].

Solubility Information

Solubility	H2O: 40 mg/mL (69.55 mM) DMSO: 80 mg/mL (139.1 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (5.74 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7387 mL	8.6935 mL	17.3871 mL
5 mM	0.3477 mL	1.7387 mL	3.4774 mL
10 mM	0.1739 mL	0.8694 mL	1.7387 mL
50 mM	0.0348 mL	0.1739 mL	0.3477 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

Schulte ML, et al. Pharmacological blockade of ASCT2-dependent glutamine transport leads to antitumor efficacyin preclinical models. Nat Med. 2018 Feb;24(2):194-202.
Jin H, et al. A powerful drug combination strategy targeting glutamine addiction for the treatment of human liver cancer. Elife. 2020;9:e56749. Published 2020 Oct 5.
Edwards DN, et al. Selective glutamine metabolism inhibition in tumor cells improves antitumor T lymphocyte activity in triple-negative breast cancer. J Clin Invest. 2021;131(4):e140100.