Data Sheet (Cat.No.T35532)

TargetMol

Galegine hydrochloride

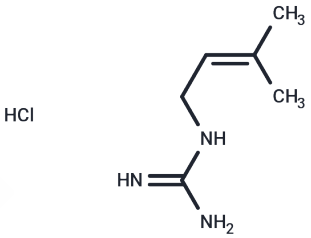
Chemical Properties

CAS No. : 2368870-39-5

Formula: C6H14ClN3

Molecular Weight: 163.65

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	Galegine hydrochloride, a guanidine derivative derived from G. officinalis, plays a role in inducing weight loss in mice and has contributed to the development of biguanides, including metformin and phenformin. This compound stimulates AMPK activation in 3T3-L1 adipocytes, L6 myotubes, H4IIE rat hepatoma, and HEK293 human kidney cell lines. Additionally, galegine hydrochloride exhibits antibacterial properties, particularly demonstrating a minimum inhibitory concentration of 4 mg/L against Staphylococcus aureus strains[1][2].
Targets(IC50)	Others,Antibacterial,AMPK
In vitro	Pre-treatment with Galegine hydrochloride (10 μM-3 mM; 5 h) enhances insulin-independent glucose absorption in 3T3-L1 adipocytes concentration-dependently, without impacting cell health. Similarly, incubation (1 μM-1 mM, 5 h) boosts glucose intake in L6 myotubes without affecting viability[1]. Galegine hydrochloride (0.3-300 μM; 24 hours) slightly decreases basal glycerol release and significantly reduces isoprenaline-induced glycerol release in 3T3-L1 adipocytes. In H4IIE rat hepatoma cells, Galegine hydrochloride (10 or 300 μM) up to 6 hours progressively activates AMPK, reaching peak activation at 360 min and maintaining twofold activation at 24 hours with 300 μM, showing a stronger effect at 300 μM than at 10 μM. A one-hour incubation triggers concentration-dependent AMPK activation in both 3T3L-1 adipocytes and L-6 myotubes, as well as in a human kidney cell line (HEK293)[1].
In vivo	Galegine hydrochloride (63 mg/kg; feed; daily for 11 days) significantly reduces body weight[1].

Solubility Information

Solubility	DMSO: 5.2 mg/mL (31.78 mM),Sonication is recommended. H2O: 43.33 mg/mL (264.77 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.1106 mL	30.553 mL	61.106 mL
5 mM	1.2221 mL	6.1106 mL	12.2212 mL
10 mM	0.6111 mL	3.0553 mL	6.1106 mL
50 mM	0.1222 mL	0.6111 mL	1.2221 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

Mooney MH, et al. Mechanisms underlying the metabolic actions of galegine that contribute to weight loss in mice. Br J Pharmacol. 2008 Apr;153(8):1669-77.
Coqueiro A, et al. In Vitro Antibacterial Activity of Prenylated Guanidine Alkaloids from Pterogyne nitens and Synthetic Analogues. J Nat Prod. 2014 Aug 22;77(8):1972-5.