Product Data Sheet

Product Name: Galegine hydrochloride
Cat. No.: GC61855

Chemical Properties

Cas. No.	2368870-39-5		
SMILES	NC(NC/C=C(C)\C)=N.[H]Cl		
Formula	$C_6H_{14}ClN_3$	M.Wt	163.65
Solubility	Water : 43.33 mg/mL (264.77 mM)|DMSO : 5.2 mg/mL (31.78 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Galegine hydrochloride		

Background

Galegine hydrochloride, a guanidine derivative, contributes to weight loss in mice. Guanidine hydrochloride is the compound derived from G. officinalis, which gave rise to the biguanides, metformin and phenformin. Galegine hydrochloride activates AMPK in 3T3-L1 adipocytes and L6 myotubes, as well as in the H4IIE rat hepatoma and HEK293 human kidney cell lines. Galegine hydrochloride has antibacterial activity, with minimum inhibitory concentration of 4 mg/L against Staphylococcus aureus strains[1][2].

Pre-treatment with Galegine hydrochloride (10 μM-3 mM; 5 h) produces a concentration-dependent stimulation of insulin-independent glucose uptake by 3T3-L1 adipocytes without any effect on cell viability. Incubation with Galegine hydrochloride (1 μM-1 mM, 5 h) produces a concentration-dependent stimulation of glucose uptake into L6 myotubes, again without any effect on cell viability[1]. Galegine hydrochloride (0.3-300 μM; 24 hours) produced a slight reduction in basal glycerol release and a more marked reduction in isoprenaline-stimulated glycerol release from 3T3-L1 adipocytes. Incubation of H4IIE rat hepatoma cells with Galegine hydrochloride (10 or 300 μM) for up to 6 hours produces a time-dependent activation of AMPK measured in cell lysates, with maximal

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activation at 360 min and twofold activation still evident at 24 hous in the presence of 300 μM Galegine hydrochloride. The effect of 300 μM Galegine hydrochloride is markedly greater than that of 10 μM. Incubation with Galegine hydrochloride for 1 hour produces a concentration-dependent activation of AMPK in both 3T3L-1 adipocytes and L-6 myotubes. Galegine hydrochloride also produces a concentration-dependent activation of the enzyme in a human kidney cell line (HEK293)[1].

Galegine hydrochloride (63 mg/kg; feed; daily for 11 days) produces a significant reduction in body weight[1].

References:
[1]. 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.
[2]. 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.