Data Sheet (Cat.No.T0361)

TargetMol

Isovaleramide

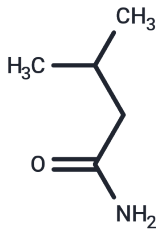
Chemical Properties

CAS No. : 541-46-8

Formula: C5H11NO

Molecular Weight: 101.15

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	Isovaleramide (3-Methylbutanamide) is an anticonvulsant molecule isolated from Valeriana pavonii, which can inhibit the liver alcohol dehydrogenases.
Targets(IC50)	GABA Receptor,Dehydrogenase
In vitro	Research on the reproductive toxicity of Isovaleramide in mice, rats, and rabbits demonstrates its potential to be significantly lower than that of VPA. Oral administration of Isovaleramide at a dose of 100 mg/kg resulted in a 90% protection index against maximal electroshock seizures in mice.
In vivo	At a concentration of 0.15%, Isovaleramide induces the formation of nitrile hydratase in Rhodococcus sp. YH 3-3. In in vitro assays, 300 μM Isovaleramide inhibits 42% of 3H-FNZ binding to its target site. At concentrations up to 1000 μM, Isovaleramide does not affect the binding and uptake assays of various neurotransmitters in vitro, suggesting that its mechanism of action does not involve direct receptor-mediated effects.

Solubility Information

Solubility	Ethanol: 16 mg/mL (158.18 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 75 mg/mL (741.47 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: 2 mg/mL (19.77 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	9.8863 mL	49.4315 mL	98.8631 mL
5 mM	1.9773 mL	9.8863 mL	19.7726 mL
10 mM	0.9886 mL	4.9432 mL	9.8863 mL
50 mM	0.1977 mL	0.9886 mL	1.9773 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

Giraldo SE, et al. Biomedica, 2010, 30(2), 245-250.
Bialer M, et al. Epilepsy Res, 2004, 61(1-3), 1-48.
Kato Y, et al. Eur J Biochem, 1999, 263(3), 662-670.

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