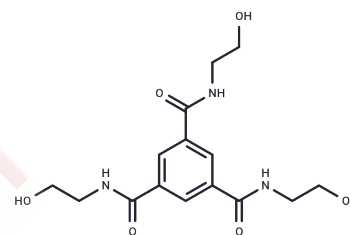


LM22A-4

Chemical Properties

CAS No. : 37988-18-4
 Formula: C₁₅H₂₁N₃O₆
 Molecular Weight: 339.34
 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	LM22A-4 is a brain-derived neurotrophic factor (BDNF) mimetic and agonist of the receptor tropomyosin-related kinase B (TrkB; IC ₅₀ : 47 nM in a fluorescence anisotropy assay)
Targets(IC ₅₀)	Trk receptor
In vitro	In vitro, LM22A-4 increases survival of hippocampal neurons via activation of TrkB as well as Akt and ERK downstream pro-survival signaling pathways[1].
In vivo	Treatment of Het mice with LM22A-4 for 4 weeks rescued wild-type levels of TrkB phosphorylation in the medulla and pons and restored wild-type breathing frequency [1].
Animal Research	Wt and Het littermates were divided into 4 groups: Wt vehicle-treated (100 µl of 0.9% NaCl, i.p., b.i.d.), Wt drug-treated (50 mg/kg LM22A-4 in 0.9% NaCl, i.p., b.i.d.), Het vehicle-treated (100 µl of 0.9% NaCl, i.p., b.i.d.), and Het drug-treated (50 mg/kg LM22A-4 in 0.9% NaCl, i.p., b.i.d.).?Each mouse was treated from 8 to 13 weeks of age.? Whole-body plethysmography was performed during week 12 and animals were subsequently killed and tissues harvested for TrkB Western blots and BDNF ELISA during week[1].

Solubility Information

Solubility	H ₂ O: 50 mg/mL (147.34 mM),Sonication is recommended. DMSO: 125 mg/mL (368.36 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 (5.89 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9469 mL	14.7345 mL	29.469 mL
5 mM	0.5894 mL	2.9469 mL	5.8938 mL
10 mM	0.2947 mL	1.4734 mL	2.9469 mL
50 mM	0.0589 mL	0.2947 mL	0.5894 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

Schmid D A , Yang T , Ogier M , et al. A TrkB Small Molecule Partial Agonist Rescues TrkB Phosphorylation Deficits and Improves Respiratory Function in a Mouse Model of Rett Syndrome[J]. The Journal of Neuroscience : The Official Journal of the Society for Neuroscience, 2012, 32(5):1803-1810.

Simmons D A , Belichenko N P , Yang T , et al. A Small Molecule TrkB Ligand Reduces Motor Impairment and Neuropathology in R6/2 and BACHD Mouse Models of Huntington\'s Disease[J]. Journal of Neuroscience, 2013, 33(48):18712-18727.

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