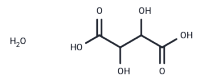
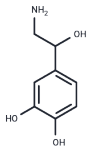
Data Sheet (Cat.No.T1064)

TargetMol

Norepinephrine bitartrate monohydrate

Chemical Properties





CAS No. : 108341-18-0

Formula: C8H11NO3·C4H6O6·H2O

Molecular Weight: 337.28

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	Norepinephrine bitartrate monohydrate is an effective adrenergic receptor (AR) agonist that directly activates α1, α2, and β1 receptors, and is commonly used to induce cardiomyopathy models.
Targets(IC50)	Endogenous Metabolite,Adrenergic Receptor,Autophagy
In vitro	Noradrenaline modulates the gain of evoked activity, especially in sensory areas. Noradrenaline promotes long-term synaptic plasticity, in addition to these data emphasizing its short-term influence. Noradrenaline would signal 'gross changes in the environment that produce sensory information strongly violating top-down expectations' and would, through an enhancement of 'bottom-up' information processing at the expense of irrelevant 'top-down' expectations, favor behavioral adjustment. [1] Noradrenaline modulates drive and energy and exerts a fine regulation of specific processes including learning, memory, sleep, arousal and adaptation. Noradrenaline system is intimately involved in a range of psychological processes which, when disrupted, lead to the expression of classifiable psychiatric disorders. Noradrenaline appears to be involved in a range of psychological processes, including arousal (vigilance), cognition, learning and sleep regulation, and also in regulating response to stressors which might initiate or exacerbate depressive symptomatology. Noradrenaline deficiency in this pathway may reduce concentration, affect working memory and cause psychomotor retardation, resulting in apathy and depression,while an increase in noradrenaline in this pathway is predicted to alleviate poor concentration, apathy and depression. [2] Noradrenaline effects are complex and depending on experimental conditions (ponto-medullary and medullary preparations) and species (rats or mice), exogenous Noradrenaline mainly facilitates or mainly inhibits the neonatal RRG, with a mixture of α1 facilitatory and α2 inhibitory effects. [3]
Cell Research	Norepinephrine (NE)is dissolved in DMSO and stored, and then diluted with appropriate media before use[2]. Subcutaneous preadipocytes derived from a 38-year old non-diabetic female donor are immortalized with TERT and HPV E6/E7. For the current studies, a stable diploid clone (referred to as clone B) with consistent differentiation capacity is isolated by ring cloning. Cells are grown in preadipocyte PGM2 media. Once cells are confluent, differentiation is induced by incubation in differentiation media consisting of dexamethasone, IBMX, indomethacin, and additional insulin. Cells are differentiated for 10 days. Prior to treatment, media is replaced with PGM2 media for one day and then switched to serum-free media overnight for treatments. Adipocytes

Cell Research	are treated for 6 hours with vehicle, Norepinephrine (NE, 10 μM), CGP (10 nM), or Norepinephrine (NE) and CGP[2].

Solubility Information

Solubility	H2O: 31.9 mg/mL (94.58 mM),Sonication is recommended. DMSO: 125 mg/mL (370.61 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 (5.93 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (29.65 mM),Solution. *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	2.9649 mL	14.8245 mL	29.649 mL
5 mM	0.593 mL	2.9649 mL	5.9298 mL
10 mM	0.2965 mL	1.4824 mL	2.9649 mL
50 mM	0.0593 mL	0.2965 mL	0.593 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

Bouret S, et al. Trends Neurosci, 2005, 28(11), 574-582.
Brunello N, et al. Int Clin Psychopharmacol, 2003, 18(4), 191-202.
Hilaire G, et al. Auton Neurosci, 2006, 126-127, 320-331.