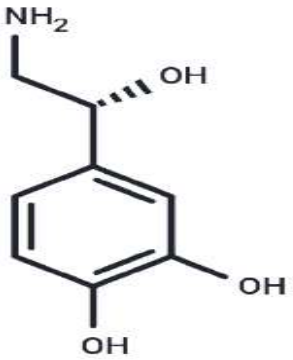
Norepinephrine [51-41-2]

#Cat: NB-64-38486-1mL **Size: 1 ml**
#Cat: NB-64-38486-100mg **Size: 100 mg**



Chemical Properties

Cas No:	51-41-2
Formula:	$C_8H_{11}NO_3$
Molecular weight:	169.18
Appearance:	Solid
Storage:	keep away from direct sunlight,keep away from moisture,store under nitrogen Powder: -20° C for 3 years | In solvent: -80° C for 1 year

Biological Description

Description	Norepinephrine is an alkaloid neurotransmitter and an effective adrenergic receptor (AR) agonist that activates α 1, α 2, and β 1 receptors. It is commonly used as a vasoactive agent for the treatment of shock and can also be used to induce cardiomyopathy models.
Targets(IC50)	MMP,Endogenous Metabolite,Adrenergic Receptor,Autophagy
In vitro	**METHODS**: Adult hippocampal cells were treated with Norepinephrine (0.1-10 μ M) for 10-13 days and the number of neurospheres was determined using classical neurosphere assay. **RESULTS**: A significant increase in the number of neurospheres was obtained at 100 nm and in the presence of 1 μ M Norepinephrine, and a twofold increase in the number of neurospheres was observed in the presence of 10 μ M Norepinephrine. [1] **METHODS**: Human pancreatic cancer cells BxPC-3 and Panc-1 were treated with Norepinephrine (10 μ M) for 12-48 h. Cell viability was assayed by MTT Assay. **RESULTS**: Norepinephrine treatment alone significantly enhanced the viability of PDAC cells. [2]
In vivo	**METHODS**: To test in vivo activity, Norepinephrine (0.2-2 mg/kga) was administered intraperitoneally to C57BL6/J mice fed a high-fat diet once daily for two weeks. **RESULTS**: A subset of Norepinephrine-treated mice developed unexpected adverse events, including bladder dilatation and decreased renal perfusion due to renal discoloration. [3]

Solubility Information

Solubility	0.1M HCl: 10 mg/mL (59.11 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble) DMSO: 8.46 mg/mL (50.01 mM),Sonication and heating are recommended. 10% DMSO+90% Saline: 0.1 mg/mL (0.59 mM),Solution. (< 1 mg/ml refers to the product slightly soluble or insoluble)

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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.9109 mL	29.5543 mL	59.1086 mL
5 mM	1.1822 mL	5.9109 mL	11.8217 mL
10 mM	0.5911 mL	2.9554 mL	5.9109 mL
50 mM	0.1182 mL	0.5911 mL	1.1822 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

Reference

Jhaveri DJ, et al. Norepinephrine directly activates adult hippocampal precursors via beta3-adrenergic receptors. J
Neurosci. 2010 Feb 17;30(7):2795-806.

Wang H, Wu Y, Zou Q, et al. A biosensing system using a multiparameter nonlinear dynamic analysis of cardiomyocyte beating for drug-induced arrhythmia recognition. Microsystems & Nanoengineering. 2022, 8(1): 1-14

Chen H, Cao N, Wang L, et al. Biased activation of β2-AR/Gi/GRK2 signal pathway attenuated β1-AR sustained activation induced by β1-adrenergic receptor autoantibody. Cell death discovery,. 2021, 7(1): 1-11.

Qian W, et al. Norepinephrine enhances cell viability and invasion, and inhibits apoptosis of pancreatic cancer cells in a Notch-1-dependent manner. Oncol Rep. 2018 Nov;40(5):3015-3023.

Gu Y, Zhang M, Liu X, et al Impact of bilateral sympathetic stellate ganglionectomy on TGF-β1 signaling pathway in rats with chronic volume overload. Frontiers in Physiology. 2020, 11: 375

Matthews VB, et al. A cautionary note for researchers treating mice with the neurotransmitter norepinephrine. Biochem Biophys Rep. 2018 Aug 17;15:103-106.

Gu Y, Zhang M, Liu X, et al. Impact of bilateral sympathetic stellate ganglionectomy on TGF-β1 signaling pathway in rats with chronic volume overload[J]. Frontiers in Physiology. 2020, 11: 375.

Wang Y, Wang X, Wang K, et al.Chronic stress accelerates glioblastoma progression via DRD2/ERK/β-catenin axis and Dopamine/ERK/TH positive feedback loop.Journal of Experimental & Clinical Cancer Research.2023, 42(1): 1-17.

Chen X, Wang K, Chen J, et al.Integrative residue-intuitive machine learning and MD Approach to Unveil Allosteric
Site and Mechanism for β2AR.Nature Communications.2024, 15(1): 8130.

Zhao X, Li F, Cheng C, et al.Social isolation promotes tumor immune evasion via β2-adrenergic receptor.Brain, Behavior, and Immunity.2024