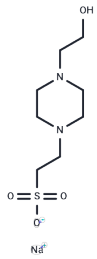
Data Sheet (Cat.No.T22839)

TargetMol

HEPES Sodium

Chemical Properties



CAS No. : 75277-39-3

Formula: C8H17N2NaO4S

Molecular Weight: 260.29

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	HEPES Sodium salt is a nonvolatile zwitterionic chemical buffering agent. HEPES Sodium salt is broadly applied in cell culture. HEPES Sodium salt is effective at pH 6.8 to 8.2. HEPES Sodium salt also induces of lysosome biogenesis.
Targets(IC50)	Others
In vitro	HEPES Sodium salt maintains superhydrophilicity of titanium for at least 3 months, leading to a continuous retention of bioactivity and osteoconductivity[1]. In cultured RAW264.7 cells, HEPES Sodium salt drives lysosome biogenesis, affects MiT/TFE cytoplasmic-nuclear distribution, disrupts global cellular transcriptional profiles, leading to the activation of a MiT/TFE-dependent lysosomal-autophagic gene network [3].

Solubility Information

Solubility	H2O: Soluble, DMSO: 125 mg/mL (480.23 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: 2.5 mg/mL (9.6 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	3.8419 mL	19.2093 mL	38.4187 mL
5 mM	0.7684 mL	3.8419 mL	7.6837 mL
10 mM	0.3842 mL	1.9209 mL	3.8419 mL
50 mM	0.0768 mL	0.3842 mL	0.7684 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

Suzuki T, et al. Nonvolatile buffer coating of titanium to prevent its biological aging and for drug delivery. Biomaterials. 2010;31(18):4818-4828.
Sledź P, et al. An experimental charge density of HEPES. Acta Crystallogr B. 2010;66(Pt 4):482-492.
Tol MJ, van der Lienden MJC, Gabriel TL, Hagen JJ, Scheij S, Veenendaal T, Klumperman J, Donker-Koopman WE, Verhoeven AJ, Overkleeft H, Aerts JM, Argmann CA, van Eijk M. HEPES activates a MiT/TFE-dependent lysosomal-autophagic gene network in cultured cells: A call for caution. Autophagy. 2018;14(3):437-449. doi: 10.1080/15548627.2017.1419118. Epub 2018 Feb 17. PMID: 29455584; PMCID: PMC5915011.