1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride

Cat. No.: HY-D0178

CAS No.: 25952-53-8

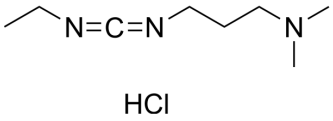
Molecular Formula: $C_8H_{18}ClN_3$

Molecular Weight: 191.7

Target: Biochemical Assay Reagents

Pathway: Others

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (521.65 mM; Need ultrasonic)
DMSO : 62.5 mg/mL (326.03 mM; Need ultrasonic)

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	5.2165 mL	26.0824 mL	52.1648 mL
5 mM	1.0433 mL	5.2165 mL	10.4330 mL
10 mM	0.5216 mL	2.6082 mL	5.2165 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (13.04 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (13.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride is a carbodiimide reagent that can form nucleic acid and compounds with amide bonds. 1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride accelerates the formation reaction of esters, amides, and peptides, as a condensing and dehydrating agent, which are often used for polynucleotide synthesis, anhydroxydation, lactonization and esterification[1][2].

In Vitro

1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (EDC.HCl) is a very useful agent to form amide bonds (peptide bonds) in an aqueous medium[1].
1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (EDC•HCl), is widely used for polyaniline-carbon nanotube

	preparation for a cholesterol biosensor, precolumn derivatization of aliphatic amines for HPLC, molecular beacons formation for DNA reseach, sensor preparation for calcium detection, the fluorescent determination of carboxylic acids, and solidphase microsequencing of peptides[2]. 1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (EDC•HCl) is an aminoaldehyde dehydrogenase (AMADH) inhibitor, while its inhibition on glutamate decarboxylase (GAD) is insignificant[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kunihiko Seno, et al. Spectrophotometric determination of 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride by flow injection analysis. Anal Sci. 2008 Apr;24(4):505-8.

[2]. Kunihiko Seno, et al. Determination of 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride by flow-injection analysis based on a specific condensation reaction between malonic acid and ethylenediamine. Anal Sci. 2009 Mar;25(3):389-93.

[3]. Runqiang Yang, et al. AMADH inhibitor optimization and its effects on GABA accumulation in soybean sprouts under NaCl-CaCl 2 treatment. 3 Biotech. 2019 May;9(5):184.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA