N-Acetyl-L-cysteine ethyl ester

Cat. No.: HY-134495

CAS No.: 59587-09-6

Molecular Formula: $C_7H_{13}NO_3S$

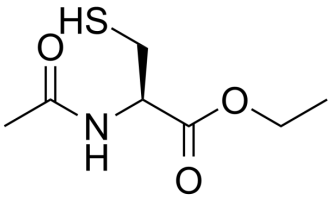
Molecular Weight: 191.25

Target: Reactive Oxygen Species

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (522.88 mM)

DMSO : 50 mg/mL (261.44 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.2288 mL	26.1438 mL	52.2876 mL
	5 mM	1.0458 mL	5.2288 mL	10.4575 mL
	10 mM	0.5229 mL	2.6144 mL	5.2288 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.07 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (5.23 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (5.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

N-Acetyl-L-cysteine ethyl ester is an esterified form of N-acetyl-L-cysteine (NAC). N-Acetyl-L-cysteine ethyl ester exhibits enhanced cell permeability, and produce NAC and cysteine. N-Acetyl-L-cysteine ethyl ester increases circulating hydrogen sulfide (H_2S) and can be used as an H_2S producer. N-Acetyl-L-cysteine ethyl ester has the potential to substitute NAC as a mucolytic agent, and as a GSH-related antioxidant[1].

In Vitro	N-Acetyl-L-cysteine ethyl ester is a an esterified form of N-acetyl-L-cysteine (NAC). N-Acetyl-L-cysteine ethyl ester exhibits enhanced cell permeability, and produce NAC and cysteine. N-Acetyl-L-cysteine ethyl ester increases circulating hydrogen sulfide (H2S) and can be used as an H2S producer. N-Acetyl-L-cysteine ethyl ester has the potential to substitute NAC as a mucolytic agent, and as a GSH-related antioxidant[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Signal Transduct Target Ther. 2023 Sep 25;8(1):366.
- Biochim Biophys Acta Mol Cell Res. 2023 Oct 5:119603.
- Research Square Preprint. 2023 Jun 14.

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REFERENCES

[1]. Daniela Giustarini, et al. N-Acetylcysteine ethyl ester (NACET): a novel lipophilic cell-permeable cysteine derivative with an unusual pharmacokinetic feature and remarkable antioxidant potential. Biochem Pharmacol. 2012 Dec 1;84(11):1522-33.

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