

Product Name: *N*-Acetylcysteine

Catalog No.: 7874

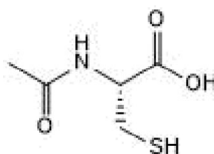
Batch No.: 2

CAS Number: 616-91-1

IUPAC Name: (2*R*)-2-Acetamido-3-sulfanylpropanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₅H₉NO₃S.
Batch Molecular Weight: 163.2
Physical Appearance: White solid
Solubility: DMSO to 50 mM
 water to 50 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +25.4 (Concentration = 5, Solvent = phosphate buffer pH 7.0)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	36.8	5.56	8.58
Found	36.85	5.58	8.53

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

N-Acetylcysteine is a cell-permeable antioxidant and a precursor of reduced glutathione (GSH) (Cat. No. 5219), with anti-inflammatory, mucolytic, and antiviral activities. N-Acetylcysteine can be used in organoid culture media for non-small cell lung and colorectal cancer organoids, expansion media for mouse/human liver and pancreas 3D organoids and LWRN media for colonic 3D organoids from human biopsies. It is a component of S7 medium in the optimized protocol for generation of functional stem cell-derived islets (SC-islets). N-Acetylcysteine can be orally administered.

Physical and Chemical Properties:

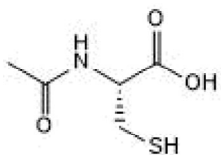
Batch Molecular Formula: C₅H₉NO₃S.

Batch Molecular Weight: 163.2

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Moiseeva et al (2023) Senescence atlas reveals an aged-like inflamed niche that blunts muscle regeneration. *Nature* **613** 169. PMID: 36544018.

Balboa et al (2022) Functional, metabolic and transcriptional maturation of human pancreatic islets derived from stem cells. *Nat.Biotechnol.* **40** 1042. PMID: 35241836.

Cattaneo et al (2019) Tumor organoid-T-cell coculture systems. *Nat.Protoc.* **15** 15. PMID: 31853056.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 50 mM

water to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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