

## Certificate of Analysis

[www.tocris.com](http://www.tocris.com)

**Product Name:** *N*-Acetylcysteine

**Catalog No.:** 7874

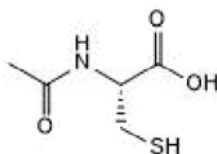
**Batch No.:** 1

CAS Number: 616-91-1

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

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub>S  
**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 98.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = +25.7 (Concentration = 5, Solvent = phosphate buffer pH 7.0)  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	36.8	5.56	8.58
Found	36.76	5.6	8.54

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

**bio-techne.com**

info@bio-techne.com  
techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com  
Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)  
Tel: +1 612 379 2956

**Product Name:** N-Acetylcysteine

**Catalog No.:** 7874

**1**

CAS Number: 616-91-1

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

**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:**

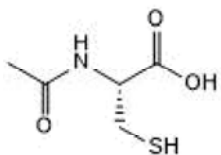
Batch Molecular Formula: C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub>S

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. Our standard recommendations are:

**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.

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

**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors

Tel:+1 612 379 2956