bio-techne
TOCRIS

Print Date: Mar 22nd 2023

Certificate of Analysis

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Product Name: **Ac-Cys-NHMe** **Catalog No.: 7936** **Batch No.: 2**

CAS Number: 10061-65-1

IUPAC Name: (2*R*)-2-(Acetylamino)-3-mercapto-*N*-methylpropanamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_6H_{12}N_2O_2S$

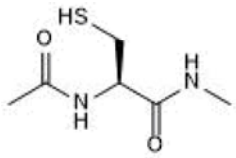
Batch Molecular Weight: 176.23

Physical Appearance: White solid

Solubility: DMSO to 100 mM
water to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = -19.7 (Concentration = 1, Solvent = Water)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.89	6.86	15.9
Found	41.07	6.9	15.79

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Description:

Ac-Cys-NHMe is a non-canonical amino acid that is an essential building block for lysine acylation using conjugating enzymes (LACE) technique. LACE is a chemoenzymatic approach that uses an E2 small ubiquitin-like modifier (SUMO)-conjugating enzyme, Ubc9, to conjugate peptide thioesters containing a C-terminal ubiquitin-derived sequence (LRLRGG) to a lysine residue located in a recognition sequence (IKQE) on a protein via an isopeptide bond. Ac-Cys-NHMe can be reacted with a peptide hydrazide to form a reactive peptide thioester, which is the substrate for Ubc9. LACE enables the site-specific modification of proteins at lysine residues to all... Please see product specific page on www.tocris.com for full description.

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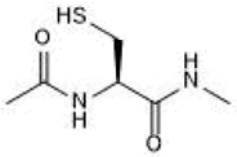

Storage: Store at -20°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

DMSO to 100 mM
water to 100 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.

References:

Levasseur *et al* (2022) Post-assembly modification of protein cages by Ubc9-mediated lysine acylation. Chembiochem ***23*** e202200332. PMID: 35951442.

Hofmann *et al* (2020) Lysine acylation using conjugating enzymes for site-specific modification and ubiquitination of recombinant proteins. Nat.Chem. ***12*** 1008. PMID: 32929246.