

Certificate of Analysis

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Product Name: HADA

Catalog No.: 6647

Batch No.: 3

CAS Number: 2253733-10-5

IUPAC Name: 3-[[[(7-Hydroxy-2-oxo-2H-1-benzopyran-3-yl)carbonyl]amino]-D-alanine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₁₂N₂O₆.HCl.¼H₂O

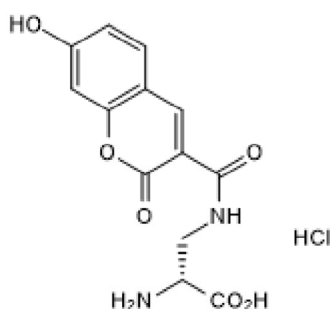
Batch Molecular Weight: 333.21

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity at 405 nm

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 405 nm (PBS)

λ_{ex}: 405 nm (PBS)

λ_{em}: 447 nm (PBS)

Optical Rotation: [α]_D = -30.9 (Concentration = 2.2, Solvent = DMSO)

Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	46.86	4.08	8.41
Found	46.16	4.44	8.13

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

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Description:

HADA is a fluorescent D-amino acid. Suitable for labeling peptidoglycans in live bacteria. Results in strong peripheral and septal labeling of diverse bacterial cell populations without affecting growth rates. Displays mitochondrial outer membrane permeability. Excitation/emission λ ~405/450 nm.

Physical and Chemical Properties:

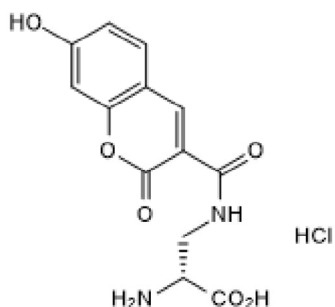
Batch Molecular Formula: C₁₃H₁₂N₂O₆.HCl.1/4H₂O

Batch Molecular Weight: 333.21

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 mM

Solutions in DMSO may appear hazy.

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.

References:

Botella et al (2017) Distinct spatiotemporal dynamics of peptidoglycan synthesis between *Mycobacterium smegmatis* and *Mycobacterium tuberculosis*. *Mbio*. **8** e01183. PMID: 28900018.

Hsu et al (2017) Full color palette of fluorescent d-amino acids for *in situ* labeling of bacterial cell walls. *Chem.Sci*. **8** 6313. PMID: 28989665.

Kuru et al (2012) *In Situ* probing of newly synthesized peptidoglycan in live bacteria with fluorescent D-amino acids. *Angew.Chem.Int.Ed*. **51** 12519. PMID: 23055266.

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