HADA hydrochloride

Cat. No.: HY-131045

CAS No.: 2253733-10-5

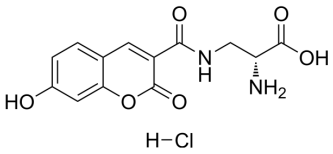
Molecular Formula: $C_{13}H_{13}ClN_2O_6$

Molecular Weight: 328.71

Target: Bacterial

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (380.27 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0422 mL	15.2110 mL	30.4220 mL
	5 mM	0.6084 mL	3.0422 mL	6.0844 mL
	10 mM	0.3042 mL	1.5211 mL	3.0422 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.08 mg/mL (6.33 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.33 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.33 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

HADA hydrochloride (HCC-Amino-D-alanine hydrochloride) is a blue (λ_{em}~450 nm) fluorescent D-amino acid (FDAA). FDAAs are efficiently incorporated into the peptidoglycans (PGs) of diverse bacterial species at the sites of PG biosynthesis, allowing specific and covalent probing of bacterial growth with minimal perturbation[1].

In Vitro

FDAA labeling can take as little as 30s for a rapidly growing species such as Escherichia coli. Although HADA hydrochloride is dimmer and less photostable than FDL or TDL, it most reproducibly and robustly labels the PG of most bacterial species, typically without the need for extensive optimization[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- bioRxiv. 2023 Feb 20.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Erkin Kuru, et al. Synthesis of fluorescent D-amino acids and their use for probing peptidoglycan synthesis and bacterial growth in situ. Nat Protoc. 2015 Jan;10(1):33-52.

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