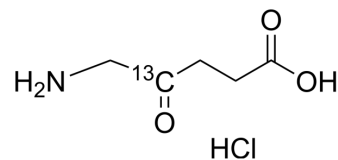


5-Aminolevulinic acid-¹³C-1 hydrochloride

Cat. No.:	HY-N0305S3		
CAS No.:	129720-94-1		
Molecular Formula:	C ₄ ¹³ CH ₁₀ ClNO ₃		
Molecular Weight:	168.58		
Target:	Apoptosis; Autophagy; Mitophagy; Endogenous Metabolite		
Pathway:	Apoptosis; Autophagy; Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (593.19 mM; Need ultrasonic)
 DMSO : 50 mg/mL (296.60 mM; Need ultrasonic)
 H₂O : 16.67 mg/mL (98.88 mM; ultrasonic and warming and heat to 60°C)
 H₂O : 16.67 mg/mL (98.88 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.9319 mL	29.6595 mL	59.3190 mL
	5 mM	1.1864 mL	5.9319 mL	11.8638 mL
	10 mM	0.5932 mL	2.9660 mL	5.9319 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 1.25 mg/mL (7.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 1.25 mg/mL (7.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 1.25 mg/mL (7.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-Aminolevulinic acid-¹³C-1 (5-ALA-¹³C-1) hydrochloride is the ¹³C labeled 5-Aminolevulinic acid hydrochloride^[1]. 5-Aminolevulinic acid hydrochloride (5-ALA hydrochloride) is an intermediate in heme biosynthesis in the body and the universal precursor of tetrapyrroles^{[2][3]}.

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].

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

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Stummer, W., et al., Fluorescence-guided surgery with 5-aminolevulinic acid for resection of malignant glioma: a randomised controlled multicentre phase III trial. *Lancet Oncol*, 2006. 7(5): p. 392-401.
- [3]. Eyupoglu, I.Y., et al., Improving the extent of malignant glioma resection by dual intraoperative visualization approach. *PLoS One*, 2012. 7(9): p. e44885.

Caution: Product has not been fully validated for medical applications. For research use only.

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