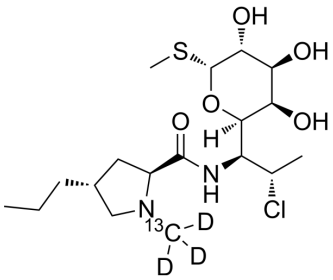
Clindamycin-$^{13}C,d_3$

Cat. No.:	HY-B1455S1
CAS No.:	2140264-63-5
Molecular Formula:	$C_{17}{}^{13}CH_{30}D_3ClN_2O_5S$
Molecular Weight:	428.99
Target:	Bacterial; Antibiotic; Parasite; Isotope-Labeled Compounds
Pathway:	Anti-infection; Others
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (291.38 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3311 mL	11.6553 mL	23.3106 mL
	5 mM	0.4662 mL	2.3311 mL	4.6621 mL
	10 mM	0.2331 mL	1.1655 mL	2.3311 mL

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

BIOLOGICAL ACTIVITY

Description

Clindamycin-$^{13}C,d_3$ is the ^{13}C- and deuterium labeled Clindamycin. Clindamycin is an orally active and broad-spectrum bacteriostatic lincosamide antibiotic. Clindamycin can inhibit bacterial protein synthesis, possessing the ability to suppress the expression of virulence factors in Staphylococcus aureus at sub-inhibitory concentrations (sub-MICs). Clindamycin resistance results from enzymatic methylation of the antibiotic binding site in the 50S ribosomal subunit (23S rRNA). Clindamycin decreases the production of Panton-Valentine leucocidin (PVL), toxic-shock-staphylococcal toxin (TSST-1) or alpha-haemolysin (Hla). Clindamycin also can be used for researching malaria[1][2][3].

IC_{50} & Target

Plasmodium

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;53(2):211-223.

[2]. Hodille E, et al. Clindamycin suppresses virulence expression in inducible clindamycin-resistant Staphylococcus aureus strains. Ann Clin Microbiol Antimicrob. 2018 Oct 20;17(1):38.

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

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