Amphotericin B-$^{13}C_6$

Cat. No.: HY-B0221S

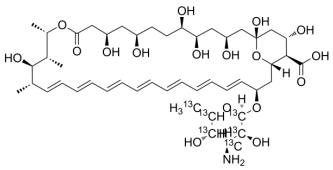
Molecular Formula: $C_{41}{}^{13}C_6H_{73}NO_{17}$

Molecular Weight: 930.03

Target: Isotope-Labeled Compounds

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Amphotericin B-$^{13}C_6$ is ^{13}C labeled Amphotericin B (HY-B0221). Amphotericin B is a polyene antifungal agent against a wide variety of fungal pathogens. It binds irreversibly to ergosterol, resulting in disruption of membrane integrity and ultimately cell death.
IC_{50} & Target	Fungal[2]
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]. Sau K, et al. The antifungal drug amphotericin B promotes inflammatory cytokine release by a Toll-like receptor- and CD14-dependent mechanism. J Biol Chem. 2003 Sep 26;278(39):37561-8. Epub 2003 Jul 14.

[2]. Barwicz J, et al. The effect of aggregation state of amphotericin-B on its interactions with cholesterol- or ergosterol-containing phosphatidylcholine monolayers. Chem Phys Lipids. 1997 Feb 28;85(2):145-55.

[3]. Ramos H, et al. Amphotericin B kills unicellular leishmanias by forming aqueous pores permeable to small cations and anions. J Membr Biol. 1996 Jul;152(1):65-75.

[4]. Demaimay R, et al. Pharmacological studies of a new derivative of amphotericin B, MS-8209, in mouse and hamster scrapie. J Gen Virol. 1994 Sep;75 (Pt 9):2499-503.

[5]. Adams ML, et al. Amphotericin B encapsulated in micelles based on poly(ethylene oxide)-block-poly(L-amino acid) derivatives exerts reduced in vitro hemolysis but maintains potent in vivo antifungal activity. Biomacromolecules. 2003 May-Jun;4(3):750-7.

[6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

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

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