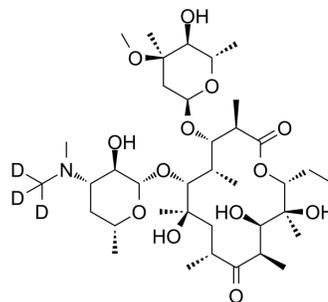


## Erythromycin-d<sub>3</sub>

<b>Cat. No.:</b>	HY-B0220S2
<b>CAS No.:</b>	959119-26-7
<b>Molecular Formula:</b>	C <sub>37</sub> H <sub>64</sub> D <sub>3</sub> NO <sub>13</sub>
<b>Molecular Weight:</b>	736.95
<b>Target:</b>	Bacterial; DNA/RNA Synthesis; Antibiotic
<b>Pathway:</b>	Anti-infection; Cell Cycle/DNA Damage
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Erythromycin-d <sub>3</sub> is the deuterium labeled Erythromycin[1]. Erythromycin is a macrolide antibiotic produced by actinomycete <i>Streptomyces erythreus</i> with a broad spectrum of antimicrobial activity. Erythromycin binds to bacterial 50S ribosomal subunits and inhibits RNA-dependent protein synthesis by blockage of transpeptidation and/or translocation reactions, without affecting synthesis of nucleic acid. Erythromycin also exhibits antitumor and neuroprotective effect in different fields of research[2][3][4][5].
<b>In Vitro</b>	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 <sup>[1]</sup> . 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]. Gribble MJ, et al. Erythromycin. *Med Clin North Am.* 1982 Jan;66(1):79-89.
- [3]. Nakornchai S, et al. Activity of azithromycin or erythromycin in combination with antimalarial drugs against multidrug-resistant *Plasmodium falciparum* in vitro. *Acta Trop.* 2006 Dec;100(3):185-91. Epub 2006 Nov 28.
- [4]. Hamada K, et al. Antitumor effect of erythromycin in mice. *Chemotherapy.* 1995 Jan-Feb. 41(1):59-69.
- [5]. Katayama Y, et al. Neuroprotective effects of erythromycin on cerebral ischemia reperfusion-injury and cell viability after oxygen-glucose deprivation in cultured neuronal cells. *Brain Res.* 2014 Nov 7. 1588:159-67.

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

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