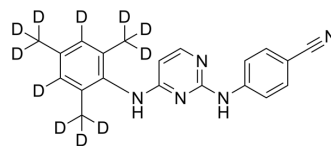


## Dapivirine-d<sub>11</sub>

<b>Cat. No.:</b>	HY-14266S
<b>CAS No.:</b>	1329613-10-6
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>8</sub> D <sub>11</sub> N <sub>5</sub>
<b>Molecular Weight:</b>	340.47
<b>Target:</b>	Apoptosis; Reverse Transcriptase; Autophagy; HIV; Isotope-Labeled Compounds
<b>Pathway:</b>	Apoptosis; Anti-infection; Autophagy; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Dapivirine-d <sub>11</sub> is the deuterium labeled Dapivirine. Dapivirine (TMC120), the prototype of diarylpyrimidines (DAPY), is an orally active and nonnucleoside reverse transcriptase inhibitor (NRTI). Dapivirine (TMC120) binds directly to HIV-1 reverse transcriptase. Dapivirine (TMC120) regulates autophagy and induced Akt, Bad and SAPK/JNK activations[1][2].
<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;53(2):211-216.
- [2]. Weiwen Liu, et al. Antitumor Activity and Mechanism of a Reverse Transcriptase Inhibitor, Dapivirine, in Glioblastoma. *J Cancer.* 2018 Jan 1;9(1):117-128.
- [3]. Bríd Devlin, et al. Development of dapivirine vaginal ring for HIV prevention. *Antiviral Res.* 2013 Dec;100 Suppl:S3-8.
- [4]. Yven Van Herrewewe, et al. In vitro evaluation of nonnucleoside reverse transcriptase inhibitors UC-781 and TMC120-R147681 as human immunodeficiency virus microbicides. *Antimicrob Agents Chemother.* 2004 Jan;48(1):337-9.
- [5]. Michael E Halwes, et al. Pharmacokinetic modeling of a gel-delivered dapivirine microbicide in humans. *Eur J Pharm Sci.* 2016 Oct 10;93:410-8.

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

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