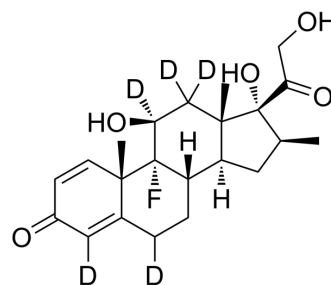


## Betamethasone-d<sub>5</sub>-1

Cat. No.:	HY-13570S1
CAS No.:	2244574-92-1
Molecular Formula:	C <sub>22</sub> H <sub>24</sub> D <sub>5</sub> FO <sub>5</sub>
Molecular Weight:	397.49
Target:	Apoptosis; Glucocorticoid Receptor; Isotope-Labeled Compounds
Pathway:	Apoptosis; Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Betamethasone-d <sub>5</sub> -1 is deuterium labeled Betamethasone. Betamethasone is a synthetic glucocorticoid with anti-inflammatory and immunosuppressive activities. Betamethasone accelerates fetal lung maturation and induces gene expression and apoptosis[1][2][3][4].
<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]. Hofmann TH, et al. Various glucocorticoids differ in their ability to induce gene expression, apoptosis and to repress NF-kappaB-dependent transcription. *FEBS Lett.* 1998 Dec 28;441(3):441-6.
- [3]. Kubin ME, et al. Clinical Efficiency of Topical Calcipotriol/Betamethasone Treatment in Psoriasis Relies on Suppression of the Inflammatory TNF $\alpha$  - IL-23 - IL-17 Axis. *Acta Derm Venereol.* 2017 Apr 6;97(4):449-455.
- [4]. Schwab M, et al. Effects of betamethasone administration to the fetal sheep in late gestation on fetal cerebral blood flow. *J Physiol.* 2000 Nov 1;528(Pt 3):619-32.
- [5]. Xie W, et al. Betamethasone affects cerebral expressions of NF-kappaB and cytokines that correlate with pain behavior in a rat model of neuropathy. *Ann Clin Lab Sci.* Winter 2006;36(1):39-46.

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

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