Methylprednisolone-d_7

Cat. No.: HY-B0260S3

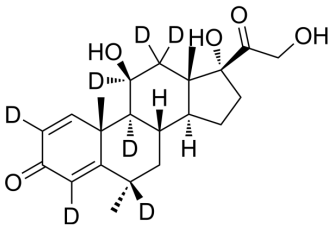
Molecular Formula: $C_{22}H_{23}D_7O_5$

Molecular Weight: 381.51

Target: Glucocorticoid Receptor; Autophagy; SARS-CoV

Pathway: Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Autophagy; Anti-infection

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (327.65 mM; ultrasonic and warming and heat to 60°C)
H2O : 0.1 mg/mL (0.26 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6212 mL	13.1058 mL	26.2116 mL
5 mM	0.5242 mL	2.6212 mL	5.2423 mL
10 mM	0.2621 mL	1.3106 mL	2.6212 mL

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

BIOLOGICAL ACTIVITY

Description

Methylprednisolone-d_7 is deuterium labeled Methylprednisolone. Methylprednisolone is a synthetic corticosteroid with anti-inflammatory and immunomodulating properties. Methylprednisolone improve severe or critical COVID-19 by activating ACE2 and reducing IL-6 levels[3].

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):211-216.

[2]. Bracken, M.B., et al., A randomized, controlled trial of methylprednisolone or naloxone in the treatment of acute spinal-cord injury. Results of the Second National Acute Spinal Cord Injury Study. N Engl J Med, 1990. 322(20): p. 1405-11.

[3]. Strupp, M., et al., Methylprednisolone, valacyclovir, or the combination for vestibular neuritis. N Engl J Med, 2004. 351(4): p. 354-61.

[4]. Zhen Xiang, et al. Glucocorticoids improve severe or critical COVID-19 by activating ACE2 and reducing IL-6 levels. Int J Biol Sci 2020; 16(13):2382-2391.

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