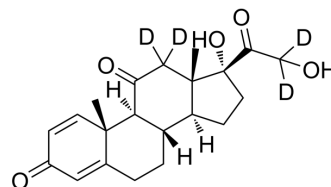


Prednisone-d₄

Cat. No.:	HY-B0214S2
Molecular Formula:	C ₂₁ H ₂₂ D ₄ O ₅
Molecular Weight:	362.45
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

Description	Prednisone-d ₄ is deuterated labeled Prednisone (HY-B0214). Prednisone (Adasone) is a corticosteroid agent with anti-inflammatory and immunosuppressive effects that can be used to study diseases related to systemic lupus erythematosus ^[1] [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.
In Vivo	Prednisone (intramuscular injection, 10 mg/kg once a day, on days 4 to 13) reduces the survival rate on days lower than the control group in BALB/c mice with encephalomyocarditis virus myocarditis. Besides, myocardial virus titers reaches a maximum on day 4, but there is no antibody titer, and on day 8 virus titers remains elevated and antibody titers is also high. On day 10, antibody titers are significantly lower than controls, while viral titers remains significantly elevated ^[3] . Prednisone (5 mg/kg, intragastrically administration, daily) can cause changes in FA metabolism in SLE mouse (MRL/lpr) model ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. RIEMER AD. Application of the newer corticosteroids to augment diuresis in congestive heart failure. *Am J Cardiol.* 1958 Apr;1(4):488-96.
- [2]. [2]N Tomioka, et al. Effects of prednisolone on acute viral myocarditis in mice. *J Am Coll Cardiol.* 1986 Apr;7(4):868-72.
- [3]. Qianqian Li, et al. Metabolic Profiling Reveals an Abnormal Pattern of Serum Fatty Acids in MRL/lpr Mice Under Treatment With Prednisone. *Front Pharmacol.* 2020 Feb 25;11:115.
- [4]. 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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