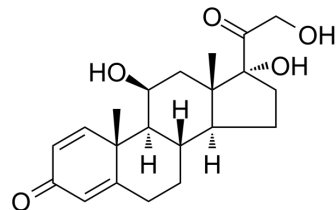


## Prednisolone

<b>Cat. No.:</b>	HY-17463												
<b>CAS No.:</b>	50-24-8												
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>28</sub> O <sub>5</sub>												
<b>Molecular Weight:</b>	360.44												
<b>Target:</b>	Glucocorticoid Receptor; Endogenous Metabolite												
<b>Pathway:</b>	Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Metabolic Enzyme/Protease												
<b>Storage:</b>	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>1 year</td> </tr> <tr> <td></td> <td>-20°C</td> <td>6 months</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	1 year		-20°C	6 months
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	4°C	2 years											
In solvent	-80°C	1 year											
	-20°C	6 months											



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 62.5 mg/mL (173.40 mM; Need ultrasonic)  
 H<sub>2</sub>O : 0.1 mg/mL (0.28 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7744 mL	13.8719 mL	27.7439 mL
	5 mM	0.5549 mL	2.7744 mL	5.5488 mL
	10 mM	0.2774 mL	1.3872 mL	2.7744 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.08 mg/mL (5.77 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.08 mg/mL (5.77 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.08 mg/mL (5.77 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Prednisolone is a potent, orally active corticosteroid and a glucocorticoid. Prednisolone possesses about four times the anti-inflammatory activity of hydrocortisone while causing less salt and water retention. Prednisolone can be used for ocular, anti-inflammatory research<sup>[1][2]</sup>.

#### In Vitro

Prednisolone (0.002-10 µg/mL; 3 days) inhibits human leukocyte mitosis<sup>[4]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Prednisolone (5 mg/kg/day; p.o.; 6 days a week for 72 weeks) significantly prevents deaths from renal disease in mice<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	NZB/NZW mice, immune nephritis model <sup>[3]</sup>
Dosage:	5 mg/kg/day
Administration:	Oral, 6 days a week for 72 weeks
Result:	Significantly lowered mortality rate and prolonged life significantly.

## CUSTOMER VALIDATION

- Cell Commun Signal. 2019 Aug 14;17(1):94.
- Cancers (Basel). 2022 Oct 19;14(20):5127.
- Drug Test Anal. 2020 Aug 27.
- Chem Biodivers. 2020 May;17(5):e2000056.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Hahn B H, et al. Comparison of therapeutic and immunosuppressive effects of azathioprine, prednisolone and combined therapy in nzb/nzw mice. Arthritis & Rheumatism: Official Journal of the American College of Rheumatology, 1973, 16(2): 163-170.
- [2]. NOWELL PC. Inhibition of human leukocyte mitosis by prednisolone in vitro. Cancer Res. 1961 Dec;21:1518-21.
- [3]. Prednisolone. J Am Pharm Assoc. 1976;16(3):143-146.
- [4]. Musson DG, et al. Assay methodology for prednisolone, prednisolone acetate and prednisolone sodium phosphate in rabbit aqueous humor and ocular physiological solutions. J Chromatogr. 1991;565(1-2):89-102.

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

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