Methylprednisolone succinate sodium

Cat. No.: HY-B1060

CAS No.: 2375-03-3

Molecular Formula: $C_{26}H_{33}NaO_8$

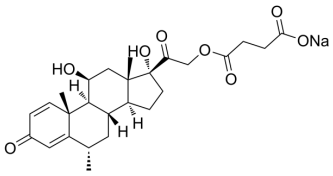
Molecular Weight: 496.53

Target: Glucocorticoid Receptor

Pathway: Immunology/Inflammation; Vitamin D Related/Nuclear Receptor

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (100.70 mM; Need ultrasonic)

DMSO : ≥ 25 mg/mL (50.35 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0140 mL	10.0699 mL	20.1398 mL
5 mM	0.4028 mL	2.0140 mL	4.0280 mL
10 mM	0.2014 mL	1.0070 mL	2.0140 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.19 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.19 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Methylprednisolone succinate (Methylprednisolone hydrogen succinate) sodium, a glucocorticoid, is a immunosuppressive agent with anti-inflammatory effects[1].

In Vitro

Methylprednisolone succinate sodium (1-400 μg; 2 days) inhibits cell growth of human glioblastomas in a dose-dependent manner[2].

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

In Vivo

Administration of Methylprednisolone succinate sodium post- intracranial haemorrhage (ICH) significantly reduces permeability of the blood-brain barrier (BBB) and brain oedema and upregulated expression of ZO-1 and Occludin. Methylprednisolone succinate sodium inhibits inflammatory responses, including reducing proinflammatory cytokines (IL-1 β, TNF-α), suppressing infiltration of neutrophils and activation of microglia. In addition, Methylprednisolone succinate sodium reduces neuronal apoptosis through increasing Bcl-2 expression and reducing Bax expression[1].

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

Animal Model:	Male C57/BL mouse (6-8 weeks old, 20-23 g) injected with collagenase[1]
Dosage:	30 mg/kg
Administration:	ip; at 2, 24 and 48 h after ICH
Result:	Significantly reduced permeability of the BBB and brain oedema and upregulated expression of ZO-1 and Occludin.

REFERENCES

[1]. Cheng S, Gao W, Xu X, et al. Methylprednisolone sodium succinate reduces BBB disruption and inflammation in a model mouse of intracranial haemorrhage. Brain Res Bull. 2016;127:226-233.

[2]. J Mealey Jr, et al. Effects of dexamethasone and methylprednisolone on cell cultures of human glioblastomas. J Neurosurg. 1971 Mar;34(3):324-34.

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