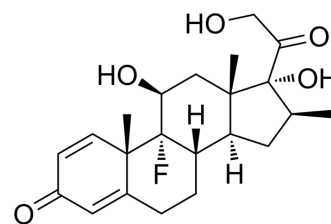


Betamethasone hydrochloride

Cat. No.:	HY-13570A
CAS No.:	956901-32-9
Molecular Formula:	C ₂₂ H ₃₀ ClFO ₅
Molecular Weight:	428.92
Target:	Glucocorticoid Receptor; Apoptosis
Pathway:	Immunology/Inflammation; Vitamin D Related/Nuclear Receptor; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



HCl

BIOLOGICAL ACTIVITY

Description	Betamethasone hydrochloride is a synthetic glucocorticoid with anti-inflammatory and immunosuppressive activities. Betamethasone hydrochloride accelerates fetal lung maturation and induces gene expression and apoptosis ^{[1][2][3][4]} .	
In Vitro	Betamethasone (0.1-1 μM; 12 h) induces gene expression in L929 cells ^[4] . Betamethasone (0.1-1 μM; 48 h) induces CEM C7 T-cells apoptosis ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Betamethasone (0.48 mg; i.v.gtt for 48 h) decreases the hypercapnia-induced increase in CBF due to decreased cerebral vasodilatation ^[1] . Betamethasone (0.05 ml (1 mg/L); topical injection) ameliorates spinal nerve transection induced mechanical allodynia and thermal hyperalgesia, and reduces the activation of NF-κB and elevation of TNFα and IL-1β, and induces the expression of IL-10 in the rats brain ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Rambouillet-Colombia ewes bred on a single occasion are received hypercapnic challenges ^[1]
	Dosage:	0.48 mg
	Administration:	Injected into the fetal jugular vein at a rate of 1 ml/h (10 μg betamethasone/h) and maintained over the next 48 h.
	Result:	Decreased cerebral blood flow (CBF) in all brain regions measured except the hippocampus after 24 h of infusion. The reduction in CBF was diminished to about 25-30 % after 48 h of infusion.

CUSTOMER VALIDATION

- Proc Natl Acad Sci U S A. 2022 Apr 12;119(15):e2117004119.

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REFERENCES

- [1]. 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.
- [2]. 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.
- [3]. Kubin ME, et, al. Clinical Efficiency of Topical Calcipotriol/Betamethasone Treatment in Psoriasis Relies on Suppression of the Inflammatory TNF α - IL-23 - IL-17 Axis. *Acta Derm Venereol*. 2017 Apr 6;97(4):449-455.
- [4]. 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.
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Caution: Product has not been fully validated for medical applications. For research use only.

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