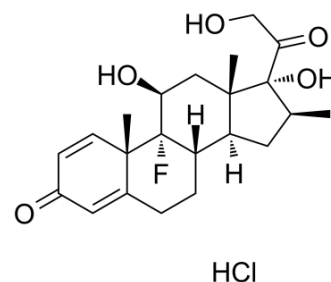


## Betamethasone hydrochloride

<b>Cat. No.:</b>	HY-13570A
<b>CAS No.:</b>	956901-32-9
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>30</sub> ClFO <sub>5</sub>
<b>Molecular Weight:</b>	428.92
<b>Target:</b>	Glucocorticoid Receptor; Apoptosis
<b>Pathway:</b>	GPCR/G Protein; Apoptosis
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Betamethasone hydrochloride is a synthetic glucocorticoid with anti-inflammatory and immunosuppressive activities. Betamethasone hydrochloride accelerates fetal lung maturation and induces gene expression and apoptosis <sup>[1][2][3][4]</sup> .	
<b>In Vitro</b>	Betamethasone (0.1-1 μM; 12 h) induces gene expression in L929 cells <sup>[4]</sup> . Betamethasone (0.1-1 μM; 48 h) induces CEM C7 T-cells apoptosis <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
<b>In Vivo</b>	Betamethasone (0.48 mg; i.v.gtt for 48 h) decreases the hypercapnia-induced increase in CBF due to decreased cerebral vasodilatation <sup>[1]</sup> . 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 <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	<b>Animal Model:</b>	Rambouillet-Colombia ewes bred on a single occasion are received hypercapnic challenges <sup>[1]</sup>
	<b>Dosage:</b>	0.48 mg
	<b>Administration:</b>	Injected into the fetal jugular vein at a rate of 1 ml/h (10 μg betamethasone/h) and maintained over the next 48 h.
	<b>Result:</b>	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.

### 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 TNFα - IL-23 - IL-17 Axis.

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[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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