

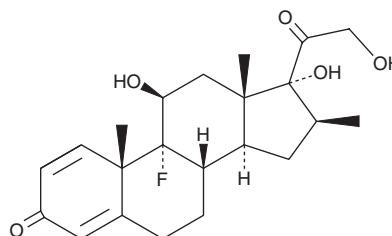
PRODUCT INFORMATION



Betamethasone

Item No. 20363

CAS Registry No.: 378-44-9
Formal Name: 9-fluoro-11 β ,17,21-trihydroxy-16 β -methyl-pregna-1,4-diene-3,20-dione
Synonyms: β -Methason, NSC 39470, SCH 4831
MF: C₂₂H₂₉FO₅
FW: 392.5
Purity: \geq 98%
UV/Vis.: λ_{max} : 238 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Betamethasone is supplied as a crystalline solid. A stock solution may be made by dissolving the betamethasone in the solvent of choice, which should be purged with an inert gas. Betamethasone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of betamethasone in these solvents is approximately 3, 30, and 25 mg/ml, respectively.

Betamethasone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, betamethasone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Betamethasone has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Betamethasone is a synthetic corticosteroid.^{64715} *In vivo*, betamethasone (5 mg/kg) reduces bronchoalveolar lavage fluid (BALF) matrix metalloproteinase-2 (MMP-2) and MMP-9 activities, TNF- α levels, and neutrophil number in a mouse model of LPS-induced lung injury. Prenatal administration of betamethasone (0.1 mg/kg) improves neonatal lung function but decreases hippocampal and corpus callosum neuron density and induces motor function deficits in a rabbit model of late preterm birth.¹ It also extends gestational length in a rat model of preterm labor induced by high mobility group protein B1 (HMGB1).² Formulations containing betamethasone have been used in the treatment of inflammatory skin conditions and prenatally to promote fetal lung maturation.

References

1. van der Merwe, J., van der Veeke, L., Inversetti, A., *et al.* Neurocognitive sequelae of antenatal corticosteroids in a late preterm rabbit model. *Am. J. Obstet. Gynecol.* **226(6)**, 850.e1-850.e21 (2022).
2. Galaz, J., Romero, R., Arenas-Hernandez, M., *et al.* Betamethasone as a potential treatment for preterm birth associated with sterile intra-amniotic inflammation: A murine study. *J. Perinat. Med.* **49(7)**, 897-906 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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