

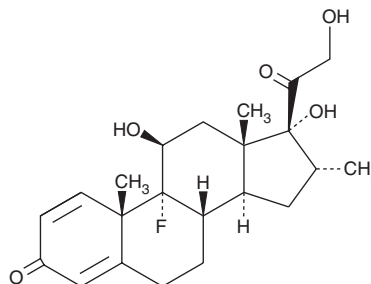
# PRODUCT INFORMATION



## Dexamethasone

Item No. 11015

**CAS Registry No.:** 50-02-2  
**Formal Name:** 9-fluoro-11 $\beta$ ,17,21-trihydroxy-16 $\alpha$ -methyl-pregna-1,4-diene-3,20-dione  
**Synonyms:** MK-125, NSC 34521  
**MF:** C<sub>22</sub>H<sub>29</sub>FO<sub>5</sub>  
**FW:** 392.5  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 239 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

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

Dexamethasone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dexamethasone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dexamethasone 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

Dexamethasone is a synthetic glucocorticoid that binds the human glucocorticoid receptor with a higher affinity than a natural ligand, cortisol ( $K_d = 5$  nM versus 17 nM, respectively).<sup>1</sup> Through receptor activation, dexamethasone has both transactivating and transrepressing effects on gene expression, producing, in general, anti-inflammatory results.<sup>2</sup>

### References

1. Mulatero, P., Panarelli, M., Schiavone, D., *et al.* Impaired cortisol binding to glucocorticoid receptors in hypertensive patients. *Hypertension* **30(5)**, 1274-1278 (1997).
2. Beck, I.M., Vanden Berghe, W., Vermeulen, L., *et al.* Crosstalk in inflammation: The interplay of glucocorticoid receptor-based mechanisms and kinases and phosphatases. *Endocr. Rev.* **30(7)**, 830-882 (2009).

#### 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.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM