

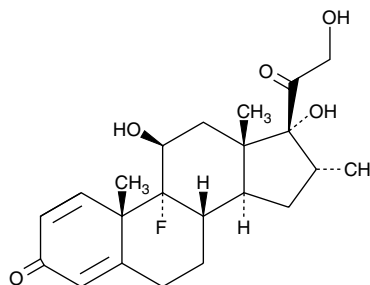
# Product Information



## Dexamethasone

Item No. 11015

**CAS Registry No.:** 50-02-2  
**Formal Name:** 9-fluoro-11 $\beta$ ,17 $\alpha$ ,21-trihydroxy-16-methyl-pregna-1,2-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%  
**Stability:**  $\geq$ 2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 239 nm



### Laboratory Procedures

For long term storage, we suggest that dexamethasone be stored as supplied at -20°C. It should be stable for at least two years.

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.

Dexamethasone is a synthetic glucocorticoid that binds the human glucocorticoid receptor with a higher affinity than a natural ligand, cortisol ( $K_d = 5 \text{ nM}$  vs. 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).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/11015](http://www.caymanchem.com/catalog/11015)

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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