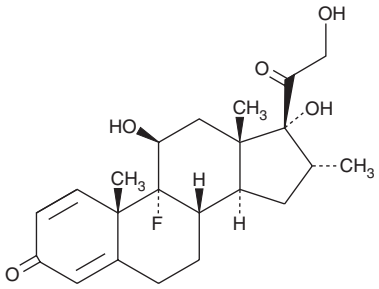
PRODUCT INFORMATION

Dexamethasone

Item No. 11015

CAS Registry No.:	50-02-2
Formal Name:	9-fluoro-11β,17,21-trihydroxy-16α-methyl-pregna-1,4-diene-3,20-dione
Synonyms:	MK-125, NSC 34521
MF:	$C_{22}H_{29}FO_5$
FW:	392.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 239 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥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).[1] Through receptor activation, dexamethasone has both transactivating and transrepressing effects on gene expression, producing, in general, anti-inflammatory results.[2]

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).

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