

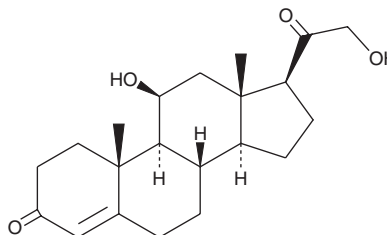
# PRODUCT INFORMATION



## Corticosterone

Item No. 16063

**CAS Registry No.:** 50-22-6  
**Formal Name:** 11 $\beta$ ,21-dihydroxy-pregn-4-ene-3,20-dione  
**Synonyms:** 17-deoxy Cortisol, 11 $\beta$ ,21-DHP, NSC 9705, 11 $\beta$ ,21-dihydroxy Progesterone  
**MF:** C<sub>21</sub>H<sub>30</sub>O<sub>4</sub>  
**FW:** 346.5  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 241 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

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

Corticosterone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, corticosterone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Corticosterone has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Corticosterone is a steroid hormone produced in the cortex of the adrenal glands that binds to both glucocorticoid and mineralocorticoid receptors.<sup>1</sup> It is produced in response to ACTH (corticotrophic hormone) and is the precursor to aldosterone synthesis.<sup>2</sup> Since the production of glucocorticoids is increased by stress, it is often used as a biomarker of stress.<sup>3</sup> Plasma corticosterone levels have a circadian variation and corticosterone may be important in the regulation of the sleep-wake cycle.<sup>4,5</sup>

### References

1. Lu, N.Z., Wardell, S.E., Burnstein, K.L., *et al.* International Union of Pharmacology. LXV. The pharmacology and classification of the nuclear receptor superfamily: Glucocorticoid, mineralocorticoid, progesterone, and androgen receptors. *Pharmacol. Rev.* **58(4)**, 782-797 (2006).
2. Palme, R., Rettenbacher, C., Touma, C., *et al.* Stress hormones in mammals and birds: Comparative aspects regarding metabolism, excretion, and noninvasive measurement in fecal samples. *Ann. N. Y. Acad. Sci.* **1040(21)**, 162-71 (2005).
3. Goymann, W., Möstl, E., and Gwinner, E. Corticosterone metabolites can be measured noninvasively in excreta of European stonechats (*Saxicola torquata rubicola*). *Auk* **119(4)**, 1167-1173 (2002).
4. Vázquez-Palacios, G., Retana-Márquez, S., Bonilla-Jaime, H., *et al.* Further definition of the effect of corticosterone on the sleep-wake pattern in the male rat. *Pharmacol. Biochem. Behav.* **70(2-3)**, 305-310 (2001).
5. Millspaugh, J.J., Washburn, B.E., Milanick, M.A., *et al.* Effects of heat and chemical treatments on fecal glucocorticoid measurements: Implications for sample transport. *Wildl. Soc. Bull.* **31(2)**, 399-406 (2003).

#### 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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