

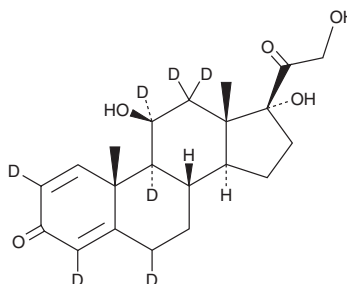
PRODUCT INFORMATION



Prednisolone-d₇

Item No. 35162

Formal Name: 11 β ,17,21-trihydroxy-pregna-1,4-diene-3,20-dione-2,4,6,9,11,12,12-d₇
MF: C₂₁H₂₁O₅D₇
FW: 367.5
Chemical Purity: \geq 95% (Prednisolone)
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₇); \leq 1% d₀
Supplied as: A 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

Prednisolone-d₇ is intended for use as an internal standard for the quantification of prednisolone (Item No. 20866) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Prednisolone-d₇ is supplied as a solid. A stock solution may be made by dissolving the prednisolone-d₇ in the solvent of choice, which should be purged with an inert gas. Prednisolone-d₇ is soluble in acetonitrile, methanol, and DMSO.

Description

Prednisolone is a glucocorticoid and mineralocorticoid receptor agonist and an active metabolite of the prodrugs and synthetic glucocorticoids prednisolone phosphate (Item No. 15933) and prednisone (Item No. 20677).¹⁻³ It selectively binds to the glucocorticoid and mineralocorticoid receptors over the progesterone, androgen, and estrogen receptors (K_d s = 2.4, 37, >5,000, 2,762, and >1,000 nM, respectively) and induces transactivation in reporter assays using CV-1 cells expressing the human glucocorticoid receptor or human mineralocorticoid receptor (EC_{50} s = 6.9 and 3.78 nM, respectively).^{2,3} Prednisolone reduces pulmonary eosinophil infiltration in a rat model of sephadex-induced asthma (ED_{50} = 1.2 mg/kg).² Formulations containing prednisolone have been used as anti-inflammatory or immunosuppressive agents.

References

1. Frey, B.M., Seeberger, M., and Frey, F.J. Pharmacokinetics of 3 prednisolone prodrugs. Evidence of therapeutic inequivalence in renal transplant patients with rejection. *Transplantation* **39**(3), 270-274 (1985).
2. Coghlan, M.J., Kym, P.R., Elmore, S.W., *et al.* Synthesis and characterization of non-steroidal ligands for the glucocorticoid receptor: Selective quinoline derivatives with prednisolone-equivalent functional activity. *J. Med. Chem.* **44**(18), 2879-2885 (2001).
3. Grossmann, C., Scholz, T., Rochel, M., *et al.* Transactivation via the human glucocorticoid and mineralocorticoid receptor by therapeutically used steroids in CV-1 cells: A comparison of their glucocorticoid and mineralocorticoid properties. *Eur. J. Endocrinol.* **151**(3), 397-406 (2004).

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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