

PRODUCT INFORMATION

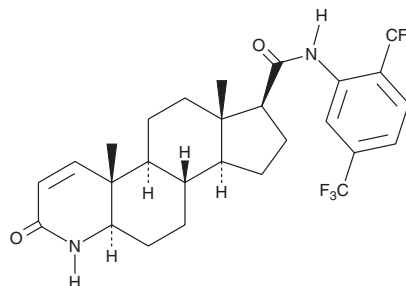


Dutasteride

Item No. 15956

CAS Registry No.: 164656-23-9
Formal Name: N-[2,5-bis(trifluoromethyl)phenyl]-2,4aR,4bS,5,6,6aS,7S,8,9,9aS,9bS,10,11,11aR-tetradecahydro-4a,6a-dimethyl-2-oxo-1H-indeno[5,4-f]quinoline-7-carboxamide

MF: C₂₇H₃₀F₆N₂O₂
FW: 528.5
Purity: ≥98%
UV/Vis.: λ_{max}: 206, 241, 278 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Dutasteride is supplied as a crystalline solid. A stock solution may be made by dissolving the dutasteride in the solvent of choice, which should be purged with an inert gas. Dutasteride is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of dutasteride in ethanol and DMSO is approximately 10 mg/ml and approximately 30 mg/ml in DMF.

Dutasteride is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dutasteride should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Dutasteride has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dutasteride is a dual inhibitor of 5 α -reductase types I and II (K_i s = 6 and 7 nM, respectively).¹⁻³ Its inhibition is time-dependent inhibitor with apparent K_i values of 17 and 4.3 nM at 10- and 30-minute reaction times, respectively.¹ Dutasteride decreases prostate weight in a rat model of benign prostatic hypertrophy induced by testosterone after castration when administered daily for 28 days at doses of 0.045 mg/kg as a solution or 0.756 mg/kg in subcutaneous microspheres.⁴ It also decreases prostate weight in large probasin-large T antigen mice, a transgenic model of prostate cancer.⁵ Formulations containing dutasteride have been used in the treatment of benign prostatic hyperplasia.

References

1. Makridakis, N. and Reichardt, J.K. *J. Mol. Endocrinol.* **34(3)**, 617-623 (2005).
2. Bramson, H.N., Hermann, D., Batchelor, K.W., et al. *J. Pharmacol. Exp. Ther.* **282(3)**, 1496-1502 (1997).
3. Tian, G., Stuart, J.D., Moss, M.L., et al. *Biochemistry* **33(8)**, 2291-2296 (1994).
4. Xie, X., Yang, Y., Chi, Q., et al. *PLoS One* **9(12)**, e114835 (2014).
5. Shao, T.C., Li, H., Ittmann, M., et al. *J. Urol.* **178(4 Pt. 1)**, 1521-1527 (2007).

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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