

# PRODUCT INFORMATION



## Finasteride

Item No. 14938

CAS Registry No.: 98319-26-7

Formal Name: (4aR,4bS,6aS,7S,9aS,9bS,11aR)-N-(1,1-dimethylethyl)-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-4a,6a-dimethyl-2-oxo-1H-indeno[5,4-f]quinoline-7-carboxamide

Synonym: MK-906

MF:  $C_{23}H_{36}N_2O_2$

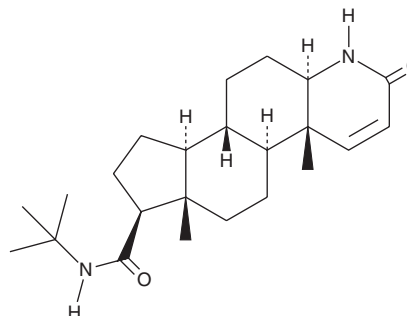
FW: 372.5

Purity:  $\geq 95\%$

Supplied as: A crystalline solid

Storage:  $-20^{\circ}\text{C}$

Stability:  $\geq 4$  years



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

### Laboratory Procedures

Finasteride is supplied as a crystalline solid. A stock solution may be made by dissolving the finasteride in the solvent of choice, which should be purged with an inert gas. Finasteride is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of finasteride in ethanol and DMF is approximately 25 mg/ml and approximately 16 mg/ml in DMSO.

Finasteride is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, finasteride should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Finasteride 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

Finasteride is a 4-azasteroid competitive inhibitor of  $5\alpha$ -reductase type II ( $IC_{50} = 4.2$  nM) and a derivative of testosterone.<sup>1</sup> It is 100-fold selective for  $5\alpha$ -reductase type II over type I. Finasteride (10  $\mu\text{M}$ ) does not affect the growth of androgen-refractory PC3 prostate cancer cells but increases the protein levels of Nrf2 and heme oxygenase-1 (HO-1).<sup>2</sup> It decreases prostatic diameter and volume, as well as dihydrotestosterone, but not testosterone, serum levels in dogs with spontaneous benign prostatic hypertrophy when administered at doses of 0.1 and 0.5 mg/kg.<sup>3</sup> Finasteride reduces testosterone-induced type I procollagen and TGF- $\beta$ 1 protein levels in cultured human scalp dermal fibroblasts in a model of androgenic alopecia when applied at a concentration of 0.1  $\mu\text{M}$ .<sup>4</sup> Formulations containing finasteride have been used in the treatment of benign prostatic hyperplasia and androgenic alopecia in men.

### References

1. Flores, E., Bratoeff, E., Cabeza, M., et al. *Mini Rev. Med. Chem.* **3**(3), 225-237 (2003).
2. Yun, D.-K., Lee, J., and Keum, Y.-S. *Biomol. Ther. (Seoul)* **21**(1), 49-53 (2013).
3. Sirinarumit, K., Johnston, S.D., Kustritz, M.V.R., et al. *J. Am. Vet. Med. Assoc.* **218**(8), 1275-1280 (2001).
4. Yoo, H.G., Kim, J.S., Lee, S.R., et al. *Biol. Pharm. Bull.* **29**(6), 1246-1250 (2006).

#### 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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