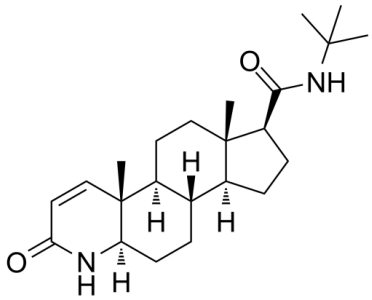
Data Sheet

Product Name:	Finasteride
Cat. No.:	CS-1767
CAS No.:	98319-26-7
Molecular Formula:	$C_{23}H_{36}N_2O_2$
Molecular Weight:	372.54
Target:	5 alpha Reductase
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 150 mg/mL (402.64 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Finasteride (MK-906) is a potent and competitive **5α-reductase** inhibitor, with an **IC_{50}** of 4.2 nM for type II 5α-reductase. Finasteride has approximately a 100-fold greater affinity for type II 5α-reductase enzyme than for the type I enzyme. Finasteride can be used for the research of benign prostatic hyperplasia (BPH) and androgenic alopecia[1][2][3]. IC50 & Target: IC50: 4.2 nM (type II 5α-reductase)[1] **In Vitro:** Finasteride (10 μM; 6-24 h) induces the expression of HO-1 and Nrf2 proteins in PC-3 cells[2]. Finasteride decreases the conversion of [^{3}H]testosterone (T) to [^{3}H]dihydrotestosterone (DHT) in P. crustosum[1]. **In Vivo:** Finasteride (0.1-0.5 mg/kg; p.o. once daily for 16 weeks) reduces prostatic size in dogs with BPH without adversely affecting semen quality or serum testosterone concentration[3].

References:

[1]. Flores E, et, al. Steroid 5alpha-reductase inhibitors. Mini Rev Med Chem. 2003 May;3(3):225-37.

[2]. Yun DK, et, al. Finasteride Increases the Expression of Hemoxygenase-1 (HO-1) and NF-E2-Related Factor-2 (Nrf2) Proteins in PC-3 Cells: Implication of Finasteride-Mediated High-Grade Prostate Tumor Occurrence. Biomol Ther (Seoul). 2013 Jan;21(1):49-53.

[3]. Sirinarumitr K, et, al. Effects of finasteride on size of the prostate gland and semen quality in dogs with benign prostatic hypertrophy. J Am Vet Med Assoc. 2001 Apr 15;218(8):1275-80.

CAIndexNames:

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

SMILES:

O=C([C@H]1CC[C@]2([H])[C@]1(C)CC[C@]3([H])[C@@]4(C)C=CC(N[C@]4([H])CC[C@]32[H])=O)NC(C)(C)C

Caution: Product has not been fully validated for medical applications. For research use only.

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