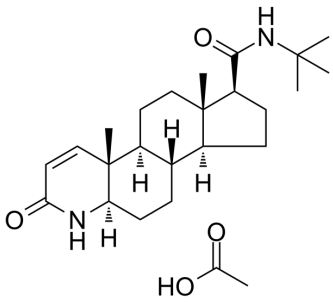
Finasteride acetate

Cat. No.:	HY-13635A
CAS No.:	222989-99-3
Molecular Formula:	$C_{25}H_{40}N_2O_4$
Molecular Weight:	432.6
Target:	5 alpha Reductase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Finasteride (MK-906) acetate is a potent and competitive 5α-reductase inhibitor, with an IC_{50} of 4.2 nM for type II 5α-reductase. Finasteride acetate has approximately a 100-fold greater affinity for type II 5α-reductase enzyme than for the type I enzyme. Finasteride acetate can be used for the research of benign prostatic hyperplasia (BPH) and androgenic alopecia[1][2][3].

IC_{50} & 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].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	PC-3, DU-145, and LNCaP cells
Concentration:	10 μM
Incubation Time:	6, 12, 24 h
Result:	Increased the expression of HO-1 protein in a time-dependent manner in PC-3 cells. Induced the expression of Nrf2 protein in DU-145 and PC-3 cells, but not in LNCaP cells.

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].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male dogs with spontaneous BPH (2.7-11 years old; 10.3-49 kg)[3]
Dosage:	0.1-0.5 mg/kg
Administration:	P.o. once daily for 16 weeks
Result:	Decreased prostatic diameter (20%), prostatic volume (43%), and serum DHT concentration (58%).

	Decreased semen volume but did not adversely effect on semen quality or serum testosterone concentration. No adverse effects on dogs.

CUSTOMER VALIDATION

- J Pain. 2019 May;20(5):577-591.
- Sci Rep. 2019 Dec 23;9(1):19703.

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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.

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