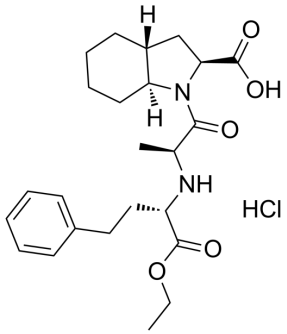
Trandolapril hydrochloride

Cat. No.:	HY-B0592A
CAS No.:	87725-72-2
Molecular Formula:	$C_{24}H_{35}ClN_2O_5$
Molecular Weight:	467
Target:	Angiotensin-converting Enzyme (ACE)
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Trandolapril (RU44570) hydrochloride is a nonsulfhydryl proagent that is hydrolysed to the active diacid Trandolapril hydrochlorideat. Trandolapril hydrochloride is an orally active angiotensin converting enzyme (ACE) inhibitor that has been used in the treatment of hypertension and congestive heart failure (CHF), and after myocardial infarction (MI)[1].

IC_{50} & Target

Target: Angiotensin-converting Enzyme (ACE)[1]

In Vivo

Trandolapril hydrochloride (3 mg/kg/day; p.o.; 7 d) reduces renal fibrosis in obstructive nephropathy in mice, by inhibiting renal interstitial matrix expression and myofibroblast activation, decreasing renal proinflammatory cytokine RANTES and TNF-α level[2].

Trandolapril hydrochloride (0.3 mg/kg/day; p.o.; 4 weeks) improves arterial mechanics in rats, prevents arterial hypertrophy, collagen and cellular fibronectin accumulation[3].

randolapril (0.3 mg/kg/day; p.o.; 4 months) exhibits a chronic anti-hypertension effects in rats, results in blood pressure decreasing[3].

Trandolapril hydrochloride (0.25 mg/kg; p.o.; twice a day; 4 months) inhibits Atherosclerosis in the Watanabe Heritable Hyperlipidemic Rabbit[4].

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

Animal Model:	UUD (unilateral ureteral obstruction) model in Male CD-1 mice (18-22 g)[2]
Dosage:	3 mg/kg
Administration:	Oral gavage; daily, for 7 days
Result:	Resulted in renal interstitial matrix expression (including fibronectin, type I, and type III collagen) decreasing, and inhibited myofibroblast activation by surprising a-smooth muscle actin (a-SMA) expression, decreased the RANTES (regulated on activation, normal T cell expressed and secreted) and TNF-α level.

Animal Model:	SHR model (spontaneously hypertensive rats, 4-week-old)[3]
Dosage:	0.3 mg/kg

Administration:	Oral gavage; daily for 4 weeks
Result:	Reduced collagen content in the aortic media and increased ariterial distensibility up to about 80%.

Animal Model:	Watanabe heritable hyperlipidemic rabbit (3 months old)[4]
Dosage:	0.25 mg/kg
Administration:	Oral gavage; twice a day; 9 months
Result:	Decreased in atherosclerotic involvement of the intimal surface, and also decreased cholesterol content in descending thoracic aorta.

REFERENCES

[1]. Peters DC, et al. Trandolapril. An update of its pharmacology and therapeutic use in cardiovascular disorders. Drugs. 1998 Nov;56(5):871-93.

[2]. Tan X, et al. Combination therapy with paricalcitol and trandolapril reduces renal fibrosis in obstructive nephropathy. Kidney Int. 2009 Dec;76(12):1248-57.

[3]. Koffi I, et al. Prevention of arterial structural alterations with verapamil and trandolapril and consequences for mechanical properties in spontaneously hypertensive rats. Eur J Pharmacol. 1998 Nov 13;361(1):51-60.

[4]. Chobanian AV, et al. Trandolapril inhibits atherosclerosis in the Watanabe heritable hyperlipidemic rabbit. Hypertension. 1992 Oct;20(4):473-7.

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