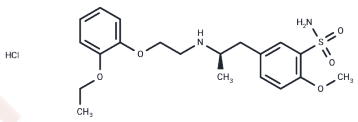
Data Sheet (Cat.No.T0210)

TargetMol

Tamsulosin hydrochloride

Chemical Properties



CAS No. : 106463-17-6

Formula: C20H29ClN2O5S

Molecular Weight: 444.97

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Tamsulosin hydrochloride (Flomax hydrochloride) is the hydrochloride salt of tamsulosin, a sulfonamide derivative with α1 adrenergic antagonist activity.
Targets(IC50)	Adrenergic Receptor
In vivo	Tamsulosin exhibits high plasma-protein binding, largely to α1-acid glycoprotein. It is metabolized, mainly by cytochrome P450 (CYP) 3A4 and CYP2D6 to compounds with low abundance, and 8.7–15% of an oral dose is excreted renally as the parent compound. The pharmacokinetics of tamsulosin are not affected to a major extent by age, and pharmacokinetic alterations in renally impaired patients relate largely to an increased concentration of α1-acid glycoprotein. Pharmacokinetic alterations with hepatic impairment are also only moderate, thus neither renal nor mild to moderate hepatic impairment necessitates dose adjustment. Early studies of tamsulosin IR in experimental animals, such as rats and dogs, showed rapid absorption of tamsulosin after oral administration (within 30–90 minutes) but absolute bioavailability of only 7–23% in rats and 30–42% in dogs. The absolute bioavailability of tamsulosin MR in fasted humans is approximately 100%. The tmax is typically about 5 hours (reported range of mean values 2.9-5.6 hours) in the fasted state and about 6 hours in the fed state (range 5.2-7.0 hours). Animal studies involving intravenous injection of radiolabelled tamsulosin and measurement of radiolabel in various tissues after 10 minutes have shown the presence of the drug in various tissues, ranked in the following order: kidney>lung≈heart>submaxillary gland>liver ≈spleen≈aorta≈vas deferens> prostate>>cerebral cortex, the latter being close to detection limits. Tamsulosin may not pass the blood-brain barrier.

Solubility Information

Solubility	DMSO: 50 mg/mL (112.37 mM),Sonication is recommended. H2O: 4.5 mg/mL (10.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2473 mL	11.2367 mL	22.4734 mL
5 mM	0.4495 mL	2.2473 mL	4.4947 mL
10 mM	0.2247 mL	1.1237 mL	2.2473 mL
50 mM	0.0449 mL	0.2247 mL	0.4495 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Franco-Salinas G, et al. Clin Pharmacokinet. 2010, 49(3):177-88.
Kuo GH, et al. Bioorg Med Chem. 2000, 8(9):2263-75.
Okutsu H, et al. Urology. 2010, 75(1):235-40.

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