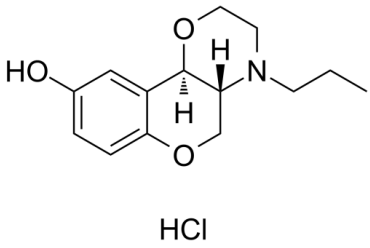
Data Sheet

Product Name:	(+)-PD 128907 hydrochloride
Cat. No.:	CS-0032813
CAS No.:	300576-59-4
Molecular Formula:	$C_{14}H_{20}ClNO_3$
Molecular Weight:	285.77
Target:	Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Solubility:	H2O : 16.67 mg/mL (58.33 mM; Need ultrasonic); DMSO : 20.83 mg/mL (72.89 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

(+)-PD 128907 hydrochloride is a selective dopamine **D_2/D_3** receptor agonist, with **K_is** of 1.7, 0.84 nM for human and rat D_3 receptors, 179, 770 n M for human and rat D_3 receptors, respectively. IC50 & Target: Ki: 1.7 nM (human D_3 receptor), 0.84 nM (rat D $_3$ receptor), 179 nM (human D_2 receptor), 770 nM (rat D_2 receptor)[1][2]. **In Vitro:** (+)-PD 128907 displaced [^{3}H]spiperone binding from dopamine D_3 receptors (K_i human=1.7 nM and rat=0.84 nM) with >100-fold and 900-fold selectivity over the human (K_i=179 nM) and rat (K_i=770 nM) dopamine D_2 receptor[1][2]. **In Vivo:** (+)-PD 128907 significantly decreases dialysate DA levels in D_3 knock out mice. The IC_{25} values are 61 nM and 1327 nM, respectively, for wild type and D_3knock out mice. The ratio of the IC_{25} values shows that (+)-PD 128907 is 22 times more potent in decreasing dialysate DA levels in wild type as compared to mice lacking the D_3 receptor. The D3 agonist evokes a dose related decrease in dialysate DA in wild type mice. Post-hoc analysis shows that all doses tested (0.03, 0.1 and 0.3 mg/kg) significantly inhibit dialysate DA. The IC_{25} values are 0.05 and 0.44 mg/kg for wild type and knock out mice, respectively, indicating that systemically administered (+)-PD 128907 is 9 times more potent in decreasing dialysate DA in the ventral striatum of wild type as compared to D_3 knock out mice. Doses of 1 mg/kg or higher of (+)-PD 128907 markedly inhibits dialysate DA in both wild type and D_3 knock out mice[3].

References:

[1]. Collins GT, et al. Dopamine agonist-induced yawning in rats: a dopamine D3 receptor-mediated behavior. J Pharmacol Exp Ther. 2005 Jul;314(1):310-9.

[2]. Bristow LJ, et al. The behavioural and neurochemical profile of the putative dopamine D3 receptor agonist, (+)-PD 128907, in the rat. Neuropharmacology. 1996 Mar;35(3):285-94.

[3]. Zapata A, et al. Selective D3 receptor agonist effects of (+)-PD 128907 on dialysate dopamine at low doses. Neuropharmacology. 2001 Sep;41(3):351-9.

CAIndexNames:

2H,5H-[1]Benzopyrano[4,3-b]-1,4-oxazin-9-ol, 3,4,4a,10b-tetrahydro-4-propyl-, hydrochloride (1:1), (4aR,10bR)-

SMILES:

CCCN1[C@@]2([H])[C@@](OCC1)([H])C3=CC(O)=CC=C3OC2.Cl

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

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA