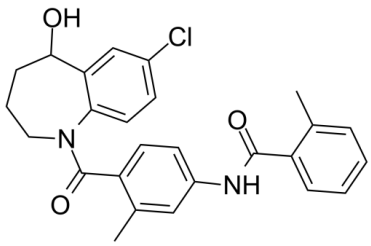
Data Sheet

Product Name:	Tolvaptan
Cat. No.:	CS-0572
CAS No.:	150683-30-0
Molecular Formula:	$C_{26}H_{25}ClN_2O_3$
Molecular Weight:	448.94
Target:	Autophagy; Vasopressin Receptor
Pathway:	Autophagy; GPCR/G Protein
Solubility:	DMSO : ≥ 100 mg/mL (222.75 mM)



BIOLOGICAL ACTIVITY:

Tolvaptan is a selective, competitive and orally active vasopressin receptor 2 (**V_2R**) antagonist with an **IC_{50}** of 1.28 μM for the inhibition of arginine vasopressin (AVP)-induced platelet aggregation. Tolvaptan induces cell apoposis and affects cell cycle. Tolvaptan can be used for the research of hyponatremia[1][2]. **In Vitro:** Tolvaptan (0-100 μM; 24-168 h) decreases the growth of HepG2 cells[2].

Tolvaptan (20-100 μM; 24-48 h) induces cell death in HepG2 cells[2].

Tolvaptan (0-100 μM; 24-48 h) affects cell cycle of HepG2 cells[2].

Tolvaptan (0-100 μM; 24-48 h) causes DNA damage and induces apoptosis of HepG2 cells[2].

Tolvaptan (0-100 μM; 24-48 h) decreases cyclins and CDKs, and increases γ-H2AX, PARP cleavage and LC3B-II in HepG2 cells[2].

Tolvaptan (0-100 μM; 4-24 h) induces phosphorylation of JNK, ERK1/2 and p38 in HepG2 cells[2].

Tolvaptan (0-100 μM; 24-28 h) induces autophagy of HepG2 cells[2]. **In Vivo:** Tolvaptan (10 mg/kg; p.o. once per day for 22 days) improves cyclophosphamide (CP)-induced nephrotoxicity in rats[3].

References:

[1]. Wu Y, et al. Mechanisms of tolvaptan-induced toxicity in HepG2 cells. Biochem Pharmacol. 2015 Jun 15;95(4):324-36.

[2]. El-Shabrawy M, et al. Protective effect of tolvaptan against cyclophosphamide-induced nephrotoxicity in rat models. Pharmacol Res Perspect. 2020 Oct;8(5):e00659.

CAIndexNames:

Benzamide, N-[4-[(7-chloro-2,3,4,5-tetrahydro-5-hydroxy-1H-1-benzazepin-1-yl)carbonyl]-3-methylphenyl]-2-methyl-

SMILES:

O=C(C1=CC=CC=C1C)NC2=CC=C(C(C)=C2)C(N3CCCC(C4=CC(Cl)=CC=C43)O)=O

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

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