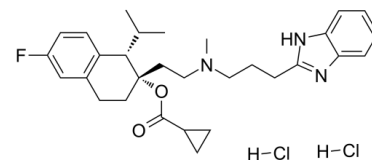


Data Sheet

Product Name:	NNC 55-0396
Cat. No.:	CS-1240
CAS No.:	357400-13-6
Molecular Formula:	C30H40Cl2FN3O2
Molecular Weight:	564.56
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	DMSO : 100 mg/mL (177.13 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

NNC 55-0396, Mibefradil derivative, is a highly selective T-type calcium channel blocker; displays IC₅₀ values of 6.8 and > 100 μM for inhibition of Cav3.1 T-type channels and HVA currents respectively in INS-1 cells. IC₅₀ value: 6.8 nM Target: Cav3.1 T-type channel
 NNC 55-0396 can be an essential tool in preventing human ovarian cancer cell proliferation as a result of its ability to inhibit the function of T-type Ca²⁺ channels. It is believed that NNC 55-0396 may functions by dissolving in or passing through the plasma membrane of cells.

References:

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- [2]. Timo Strünker, Normann Goodwin, Christoph Brenker, et al. The CatSper channel mediates progesterone-induced Ca²⁺ influx in human sperm. Nature, 2011,471, 382-386.
- [3]. Hideto Miwa, Jinsoo Koh, Yoshinori Kajimoto, et al. Effects of T-type calcium channel blockers on a parkinsonian tremor model in rats. Pharmacology Biochemistry and Behavior. 2011,97(4): 656-659.
- [4]. Li M, Hansen JB, Huang L, et al. Towards selective antagonists of T-type calcium channels: design, characterization and potential applications of NNC 55-0396. Cardiovasc Drug Rev. 2005 Summer;23(2):173-96.
- [5]. Huang L, Keyser BM, Tagmose TM, et al. NNC 55-0396 [(1S,2S)-2-[2-((N-[(3-benzimidazol-2-yl)propyl]-N-methylamino)ethyl)-6-fluoro-1,2,3,4-tetrahydro-1-isopropyl-2-naphthyl cyclopropanecarboxylate dihydrochloride]: a new selective inhibitor of T-type calcium channels. J Pharmacol Exp Ther. 2004 Apr;309(1):193-9.

CAIndexNames:

Cyclopropanecarboxylic acid, (1S,2S)-2-[2-[[3-(1H-benzimidazol-2-yl)propyl]methylamino]ethyl]-6-fluoro-1,2,3,4-tetrahydro-1-(1-methylethyl)-2-naphthalenyl ester, hydrochloride (1:2)

SMILES:

O=C(C1CC1)O[C@@]2(CCN(CCCC3=NC4=CC=CC=C4N3)C)[C@@H](C(C)C)C5=C(C=C(F)C=C5)CC2.[H]Cl.[H]Cl

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

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