

# PRODUCT INFORMATION



**NNC 55-0396**

Item No. 17216

**CAS Registry No.:** 357400-13-6  
**Formal Name:** 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, dihydrochloride

**MF:** C<sub>30</sub>H<sub>38</sub>FN<sub>3</sub>O<sub>2</sub> • 2HCl

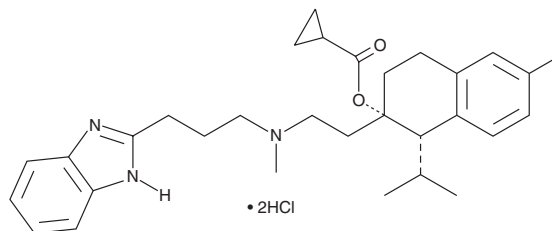
**FW:** 564.6

**Purity:** ≥98%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

## Laboratory Procedures

NNC 55-0396 is supplied as a crystalline solid. A stock solution may be made by dissolving the NNC 55-0396 in the solvent of choice, which should be purged with an inert gas. NNC 55-0396 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NNC 55-0396 in these solvents is approximately 30 mg/ml.

NNC 55-0396 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NNC 55-0396 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. NNC 55-0396 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

NNC 55-0396 is a selective inhibitor of T-type calcium channels that blocks Ca<sub>v</sub>3.1 in stably expressing HEK293 cells (IC<sub>50</sub> = 6.8 μM) with no discernible effect on high voltage-activated (L-type) channels in INS-1 cells up to a concentration of 100 μM.<sup>1</sup> NNC 55-0396 suppresses tremor in two murine models, the GABA<sub>A</sub> α<sub>1</sub>-null (20 mg/kg) and harmaline-induced (12.5 mg/kg) tremor models, and was better tolerated than mibefradil (Item No. 15037).<sup>2</sup> In arterial smooth muscle cells, NCC 55-0396 (IC<sub>50</sub> = 80 nM) inhibits voltage-dependent K<sup>+</sup> channels but does not affect their voltage sensitivity.<sup>3</sup> NNC 55-0396 (1-5 μM) also suppresses angiogenesis *in vitro* by inhibiting hypoxia-inducible factor-1α activity, and it slows tumor growth of flank xenografts of U87MG cells in mice when administered at 20 mg/kg.<sup>4</sup>

## References

1. Huang, L., Keyser, B.M., Tagmose, T.M., *et al. J. Pharmacol. Exp. Ther.* **309**(1), 193-199 (2004).
2. Quesada, A., Bui, P.H., Homanics, G.E., *et al. Eur. J. Pharmacol.* **659**(1), 30-36 (2011).
3. Son, Y.K., Hong, D.H., Li, H., *et al. J. Pharmacol. Sci.* **125**(3), 312-319 (2014).
4. Kim, K.H., Kim, D., Park, J.Y., *et al. J. Mol. Med. (Berlin)* **93**(5), 499-509 (2015).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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