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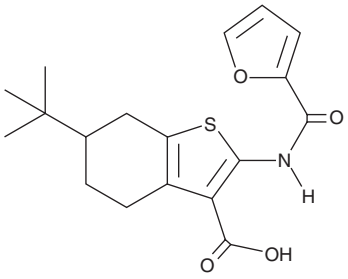
PRODUCT INFORMATION

CaCC(inh)-A01

Item No. 21922

CAS Registry No.: 407587-33-1
Formal Name: 6-(1,1-dimethylethyl)-2-[(2-furanylcarbonyl) amino]-4,5,6,7-tetrahydro-benzo[b] thiophene-3-carboxylic acid
MF: $C_{18}H_{21}NO_4S$
FW: 347.4
Purity: ≥98%
UV/Vis.: λ_{max}: 228, 258, 343 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

CaCC(inh)-A01 is supplied as a crystalline solid. A stock solution may be made by dissolving the CaCC(inh)-A01 in the solvent of choice. CaCC(inh)-A01 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of CaCC(inh)-A01 in these solvents is approximately 30 mg/ml.

CaCC(inh)-A01 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CaCC(inh)-A01 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. CaCC(inh)-A01 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CaCC(inh)-A01 is a non-selective inhibitor of calcium-activated chloride channels (CaCCs) that blocks ATP-stimulated chloride conductance in human salivary gland, intestinal, and bronchial epithelium (mean IC_{50} = 10 µM).[1] CaCC(inh)-A01 (30 µM) induces full vasorelaxation of preconstricted mouse isolated mesenteric arteries in the presence or absence of chloride.[2] CaCC(inh)-A01 also attenuates CaCC TMEM16-A-induced proliferation in cancer cell lines through targeted degradation of the protein and reduces the activity of large-conductance calcium-activated potassium channels (K_{Ca}1.1/BK) in human red blood cells.[3,4]

References

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2. Boedtkjer, D.M.B., Kim, S., Jensen, A.B., *et al*. New selective inhibitors of calcium-activated chloride channels - T16Ainh-A01, CaCCinh-A01 and MONNA - what do they inhibit? *Br. J. Pharmacol.* **172(16)**, 4158-4172 (2015).
3. Bill, A., Hall, M.L., Borawski, J., *et al*. Small molecule-facilitated degradation of ANO1 protein: A new targeting approach for anticancer therapeutics. *J. Biol. Chem.* **289(16)**, 11029-11041 (2014).
4. Kucherenko, Y.V., Wagner-Britz, L., Bernhardt, I., *et al*. Effect of chloride channel inhibitors on cytosolic Ca^{2+} levels and Ca^{2+}-activated K^+ (Gardos) channel activity in human red blood cells. *J. Membr. Biol.* **246(4)**, 315-326 (2013).

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