

Product Data Sheet

Product Name: ICA 069673

Cat. No.: GC16447

Chemical Properties

Cas. No. 582323-16-8

Chemical Name (Z)-N-(2-chloropyrimidin-5-yl)-3,4-difluorobenzimidic acid

SMILES C1C1=NC=C(/N=C(O)/C2=CC(F)=C(F)C=C2)C=N1

Formula $C_{11}H_6ClF_2N_3O$ M.Wt 269.63

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml
Storage Store at RT

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available sizes: ship with RT, or blue ice upon request.

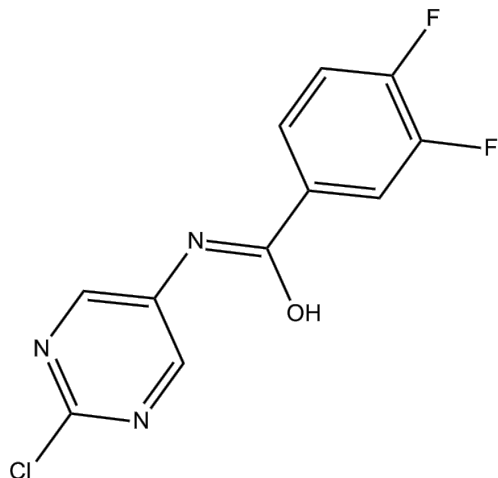
Caution: Product has not been fully validated for medical applications. For research use only.

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Background

ICA-069673 is a KCNQ2/Q3 potassium channel activator with an IC₅₀ of 0.69 μ M.

ICA-069673 is found to be 20-fold selective for KCNQ2/Q3 over KCNQ3/Q5 and has no measurable activity against a panel of cardiac ion channels (IC₅₀ values > 30 μ M for hERG, Nav1.5, L type channels, and KCNQ1) as well as no activity on GABA(A) gated channels at 10 μ M[1]. ICA-069673 exhibits much stronger effects on KCNQ2 channels, including a large hyperpolarizing shift of the voltage-dependence of activation, an 2-fold enhancement of peak current and pronounced subtype specificity for KCNQ2 over KCNQ3. Based on ICA73 sensitivity of chimeric constructs of the transmembrane segments of KCNQ2 and KCNQ3, this drug appears to interact with the KCNQ2 voltage sensor (S1-S4)[2].

References:

[1]. Wickenden AD, et al. N-(6-chloro-pyridin-3-yl)-3,4-difluoro-benzamide (ICA-27243): a novel, selective KCNQ2/Q3 potassium channel activator. Mol Pharmacol. 2008 Mar;73(3):977-86. Epub 2007 Dec 18.

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[2]. Wang AW, et al. Sequence determinants of subtype-specific actions of KCNQ channel openers. J Physiol. 2017 Feb 1;595(3):663-676.

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