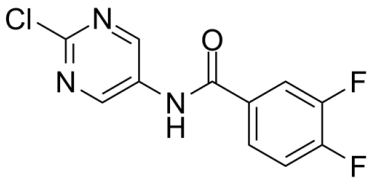
Data Sheet

Product Name:	ICA-069673
Cat. No.:	CS-6397
CAS No.:	582323-16-8
Molecular Formula:	C11H6ClF2N3O
Molecular Weight:	269.63
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Solubility:	DMSO : ≥ 34 mg/mL (126.10 mM)



BIOLOGICAL ACTIVITY:

ICA-069673 is a **KCNQ2/Q3** potassium channel activator with an **IC_{50}** of 0.69 μM. IC50 & Target: IC50: 0.69 μM (KCNQ2/Q3 potassium channel)[1] **In Vitro:** 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 (IC_{50} values > 30 μM for hERG, Nav1.5, L type channels, and KCNQ1) as well as no activity on GABA(A) gated channels at 10 μM[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.

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

CAIndexNames:

Benzamide, N-(2-chloro-5-pyrimidinyl)-3,4-difluoro-

SMILES:

O=C(NC1=CN=C(Cl)N=C1)C2=CC=C(F)C(F)=C2

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