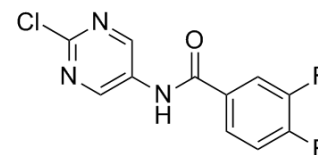


## ICA-069673

<b>Cat. No.:</b>	HY-101396		
<b>CAS No.:</b>	582323-16-8		
<b>Molecular Formula:</b>	C <sub>11</sub> H <sub>6</sub> ClF <sub>2</sub> N <sub>3</sub> O		
<b>Molecular Weight:</b>	269.63		
<b>Target:</b>	Potassium Channel		
<b>Pathway:</b>	Membrane Transporter/Ion Channel		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 34 mg/mL (126.10 mM)  
 \* "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
<b>1 mM</b>	3.7088 mL	18.5439 mL	37.0879 mL
<b>5 mM</b>	0.7418 mL	3.7088 mL	7.4176 mL
<b>10 mM</b>	0.3709 mL	1.8544 mL	3.7088 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

ICA-069673 is a KCNQ2/Q3 potassium channel activator with an IC<sub>50</sub> of 0.69 μM.

#### IC<sub>50</sub> & Target

IC<sub>50</sub>: 0.69 μM (KCNQ2/Q3 potassium channel)<sup>[1]</sup>

#### 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<sub>50</sub> 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<sup>[1]</sup>. 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)<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

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[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.

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

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