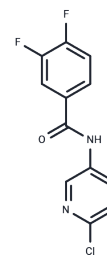


ICA-27243

## Chemical Properties

CAS No. : 325457-89-4  
 Formula: C<sub>12</sub>H<sub>7</sub>ClF<sub>2</sub>N<sub>2</sub>O  
 Molecular Weight: 268.65  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
 Actual storage temperature shall be subject to the COA.



## Biological Description

Description	ICA-27243 is less effective at activating KCNQ4 and KCNQ3/Q5. ICA-27243 is a potent and orally active KCNQ2/Q3 potassium channel opener (EC <sub>50</sub> : 0.38 μM). ICA-27243 also has antiepileptic and anticonvulsant effects.
Targets(IC <sub>50</sub> )	Potassium Channel
In vitro	ICA-27243 increases both 86Rb <sup>+</sup> efflux (EC <sub>50</sub> = 0.2 μM) and whole-cell currents in Chinese hamster ovary cells stably expressing heteromultimeric KCNQ2/Q3 channels (EC <sub>50</sub> = 0.4 μM). ICA-27243 produces membrane potential hyperpolarization that could be prevented by coadministration with the M-current inhibitors XE-991 and Linopirdine, in SH-SY5Y human neuroblastoma cells [1].
In vivo	In the mouse maximal electroshock epilepsy model, ICA-27243 (1-100 mg/kg; oral administration; male CD-1 mice) has anticonvulsant activity (ED <sub>50</sub> : 8.4 mg/kg)[1].

## Solubility Information

Solubility	DMSO: 247 mg/mL (919.41 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (12.28 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.7223 mL	18.6116 mL	37.2232 mL
5 mM	0.7445 mL	3.7223 mL	7.4446 mL
10 mM	0.3722 mL	1.8612 mL	3.7223 mL
50 mM	0.0744 mL	0.3722 mL	0.7445 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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.

Amato G, et al. N-Pyridyl and Pyrimidine Benzamides as KCNQ2/Q3 Potassium Channel Openers for the Treatment of Epilepsy. *ACS Med Chem Lett.* 2011 Mar 31;2(6):481-4.

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