

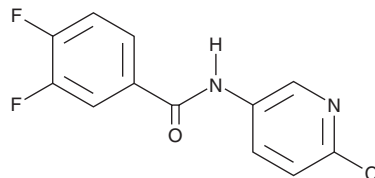
# PRODUCT INFORMATION



**ICA 27243**

Item No. 40827

**CAS Registry No.:** 325457-89-4  
**Formal Name:** N-(6-chloro-3-pyridinyl)-3,4-difluoro-benzamide  
**Synonym:** ICA 027243  
**MF:** C<sub>12</sub>H<sub>7</sub>ClF<sub>2</sub>N<sub>2</sub>O  
**FW:** 268.7  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

## Laboratory Procedures

ICA 27243 is supplied as a solid. A stock solution may be made by dissolving the ICA 27243 in the solvent of choice, which should be purged with an inert gas. ICA 27243 is soluble (≥10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol.

## Description

ICA 27243 is an activator of heteromeric voltage-gated potassium channels containing K<sub>v</sub>7.2 and K<sub>v</sub>7.3 subunits (K<sub>v</sub>7.2/K<sub>v</sub>7.3).<sup>1</sup> It enhances rubidium efflux in an agonist-induced rubidium efflux assay using CHO cells expressing K<sub>v</sub>7.2/K<sub>v</sub>7.3 channels (EC<sub>50</sub> = 0.38 μM). ICA 27243 is selective for heteromeric K<sub>v</sub>7.2/K<sub>v</sub>7.3 channels over homomeric K<sub>v</sub>7.4 channels (EC<sub>50</sub> = 7.1 μM) and is 100-300-fold selective for K<sub>v</sub>7.2/K<sub>v</sub>7.3 over K<sub>v</sub>7.3/K<sub>v</sub>7.5 channels.<sup>2</sup> It is also selective for K<sub>v</sub>7.2/K<sub>v</sub>7.3 channels over a panel of neurotransmitter receptors and voltage-gated sodium channel Na<sub>v</sub>1.2 at 10 μM, as well as GABA<sub>A</sub> receptors and high voltage-activated calcium channels at 30 μM. ICA 27243 protects against maximal electroshock-induced seizures in a rat model of epilepsy (ED<sub>50</sub> = 1.5 mg/kg).<sup>1</sup> It also prevents hyperactivity induced by amphetamine and chlordiazepoxide, but not by amphetamine alone, without affecting basal locomotor activity in a mouse model of manic-like hyperactivity when administered at a dose of 10 mg/kg.<sup>3</sup>

## References

1. Amato, G., Roeloffs, R., Rigdon, G.C., *et al.* N-Pyridyl and pyrimidine benzamides as KCNQ2/Q3 potassium channel openers for the treatment of epilepsy. *ACS Med. Chem. Lett.* **2**(6), 481-484 (2011).
2. Wickenden, A.D., Krajewski, J.L., London, B., *et al.* N-(6-chloro-pyridin-3-yl)-3,4-difluoro-benzamide (ICA-27243): A novel, selective KCNQ2/Q3 potassium channel activator. *Mol. Pharmacol.* **73**(3), 977-986 (2008).
3. Redrobe, J.P. and Nielsen, A.N. Effects of neuronal K<sub>v</sub>7 potassium channel activators on hyperactivity in a rodent model of mania. *Behav. Brain Res.* **198**(2), 481-485 (2009).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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