

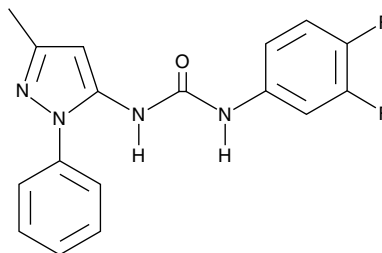
Product Information



ML-297

Item No. 14792

CAS Registry No.: 1443246-62-5
Formal Name: N-(3,4-difluorophenyl)-N'-(3-methyl-1-phenyl-1H-pyrazol-5-yl)-urea
Synonyms: CID-56642816, VU0456810
MF: C₁₇H₁₄F₂N₄O
FW: 328.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 244 nm



Laboratory Procedures

For long term storage, we suggest that ML-297 be stored as supplied at -20°C. It should be stable for at least two years.

ML-297 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-297 in the solvent of choice. ML-297 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ML-297 in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ML-297 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ML-297 in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

G protein-regulated inwardly rectifying potassium (GIRK₁₋₄) channels are a family of K_{ir}3.1-K_{ir}3.4 ion channels that modulate cell excitability. The four different GIRK subunits are composed in different homo- and heterotetrameric combinations, which are expressed with regional specificity throughout the central nervous system and in the periphery.¹ ML-297 is a selective GIRK1/2 activator (EC₅₀s = 0.16 and 1.8 μM for GIRK1/2 and GIRK1/4, respectively, and is completely inactive at GIRK2/3).^{1,2} In two different mouse models of epilepsy, ML-297 at 60 mg/kg was shown to delay seizure onset and to prevent convulsions.¹

References

1. Kaufmann, K., Romaine, I.M., Days, E., *et al.* ML297 (VU0456810), the first potent and selective activator of the GIRK potassium channel, displays antiepileptic properties in mice. *ACS Chem. Neurosci.* **4**(9), 1278-1286 (2013).
2. Wen, W., Wu, W., Romaine, I.M., *et al.* Discovery of 'molecular switches' within a GIRK activator scaffold that afford selective GIRK inhibitors. *Bioorg. Med. Chem. Lett.* **23**(16), 4562-4566 (2013).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14792

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 11/20/2013

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com