

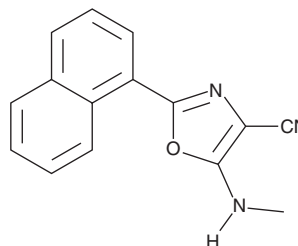
PRODUCT INFORMATION



ML-351

Item No. 16119

CAS Registry No.: 847163-28-4
Formal Name: 5-(methylamino)-2-(1-naphthalenyl)-4-oxazolecarbonitrile
Synonym: CID-664510
MF: C₁₅H₁₁N₃O
FW: 249.3
Purity: ≥98%
UV/Vis.: λ_{max}: 234, 344 nm
Supplied as: A crystalline 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

ML-351 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-351 in the solvent of choice, which should be purged with an inert gas. ML-351 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ML-351 in these solvents is approximately 5 and 25 mg/ml, respectively.

ML-351 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Lipoxygenases (LOs) are non-heme iron-containing dioxygenases that catalyze the oxidation of polyunsaturated fatty acids to generate unsaturated fatty acid hydroperoxides.¹ The immediate products of 15-LO fatty acid oxidation act as mediators in inflammation, thrombosis, and cancer.² ML-351 is an inhibitor of human reticulocyte 15-LO-1 (IC₅₀ = 200 nM) with >250-fold selectivity over the related enzymes 5-LO, platelet 12-LO, 15-LO-2, ovine COX-1, and human COX-2.^{3,4} ML-351 was shown to be protective against oxidative glutamate toxicity in mouse neuronal HT-22 cells and significantly reduced infarct size in an *in vivo* mouse model for ischemic stroke.^{3,4}

References

1. Gaffney, B.J. Lipoxygenases: Structural principles and spectroscopy. *Annu. Rev. Biophys. Biomol. Struct.* **25**, 431-459 (1996).
2. Chanez, P., Bonnans, C., Chavis, C., *et al.* 15-Lipoxygenase. A janus enzyme? *Am. J. Respir. Cell Mol. Biol.* **27(6)**, 655-658 (2002).
3. Rai, G., Joshi, N., Perry, S., *et al.* Discovery of ML351, a potent and selective inhibitor of human 15-lipoxygenase-1, in Probe Reports from the NIH Molecular Libraries Program. National Center for Biotechnology Information (US), Bethesda, (2010).
4. Rai, G., Joshi, N., Jung, J.E., *et al.* Potent and selective inhibitors of human reticulocyte 12/15-lipoxygenase as anti-stroke therapies. *J. Med. Chem.* **57(10)**, 4035-4048 (2014).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM