

PRODUCT INFORMATION



ML-347

Item No. 17640

CAS Registry No.: 1062368-49-3
Formal Name: 5-[6-(4-methoxyphenyl)pyrazolo[1,5-a]pyrimidin-3-yl]-quinoline

Synonym: LDN193719

MF: C₂₂H₁₆N₄O

FW: 352.4

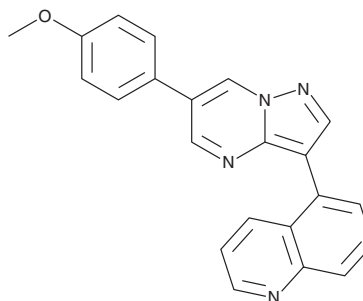
Purity: ≥95%

UV/Vis.: λ_{max}: 242, 281 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

ML-347 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-347 in the solvent of choice. ML-347 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ML-347 in these solvents is approximately 10 and 5 mg/ml, respectively.

ML-347 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ML-347 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ML-347 has a solubility of approximately 0.25 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Activation of bone morphogenetic protein (BMP) type I receptors, also known as activin receptor-like kinases (ALK1-7), leads to the assembly of SMAD complexes, which translocate to the nucleus to induce transcriptional activation important for normal development and tissue repair.¹ ML-347 is a 5-quinoline compound that inhibits ALK1 and ALK2 with IC₅₀ values of 46 and 32 nM, respectively.² It demonstrates >300-fold selectivity for ALK2 over ALK3, ALK6, and VEGF type 2 receptor (IC₅₀s = 10.8, 9.8, and 19.7 μM, respectively) and is inactive at ALK4, ALK5, BMP type 2 receptors, TGF-β type 2 receptor, and AMPK.² In a functional assay, ML-347 was shown to inhibit BMP4 signaling with an IC₅₀ value of 152 nM.²

References

1. Brivanlou, A.H. and Darnell, J.E., Jr. Signal transduction and the control of gene expression. *Science* **295**, 813-818 (2002).
2. Engers, D.W., Frist, A.Y., Lindsley, C.W., et al. Synthesis and structure-activity relationships of a novel and selective bone morphogenetic protein receptor (BMP) inhibitor derived from the pyrazolo[1,5-a]pyrimidine scaffold of Dorsomorphin: The discovery of ML347 as an ALK2 versus ALK3 selective MLPCN probe. *Bioorg. Med. Chem. Lett.* **23(11)**, 3248-3252 (2013).

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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