

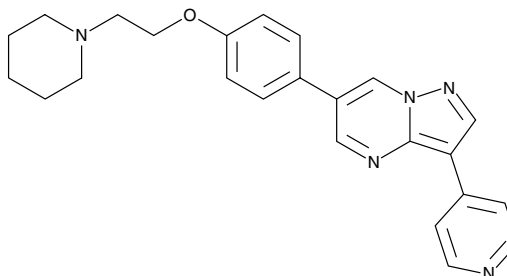
Product Information



Dorsomorphin

Item No. 11967

CAS Registry No.: 866405-64-3
Formal Name: 6-[4-[2-(1-piperidinyl)ethoxy]phenyl]-3-(4-pyridinyl)-pyrazolo[1,5-a]pyrimidine
Synonym: Compound C
MF: C₂₄H₂₅N₅O
FW: 399.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 204, 301 nm



Laboratory Procedures

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

Dorsomorphin is supplied as a crystalline solid. A stock solution may be made by dissolving the dorsomorphin in the solvent of choice. Dorsomorphin is soluble in organic solvents such as ethanol and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of dorsomorphin in these solvents is approximately 0.14 and 2.5 mg/ml, respectively.

Dorsomorphin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dorsomorphin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Dorsomorphin has a solubility of approximately 0.083 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Dorsomorphin is a potent, reversible inhibitor of AMPK (K_i = 109 nM) that does not exhibit significant activity on structurally related kinases, including ZAPK, SYK, PKCθ, PKA, and JAK3.¹ Dorsomorphin can also dose-dependently inhibit the bone morphogenetic protein type 1 receptors ACTR-I (ALK2), BMPR-IA (ALK3), and BMPR-IB (ALK6).² Independent of AMPK inhibition, dorsomorphin at 10 μM has additionally been shown to downregulate the Akt/mTOR pathway to induce autophagy in U251 human glioma cells.³

References

1. Zhou, G., Myers, R., Li, Y., *et al.* Role of AMP-activated protein kinase in mechanism of metformin action. *J. Clin. Invest.* **108**(8), 1167-1174 (2001).
2. Yu, P.B., Hong, C.C., Sachidanandan, C., *et al.* Dorsomorphin inhibits BMP signals required for embryogenesis and iron metabolism. *Nat. Chem. Biol.* **4**(1), 33-41 (2008).
3. Vucicevic, L., Misirkic, M., Janjetovic, K., *et al.* Compound C induces protective autophagy in cancer cells through AMPK inhibition-independent blockade of Akt/mTOR pathway. *Autophagy* **7**(1), 40-50 (2011).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11967

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