

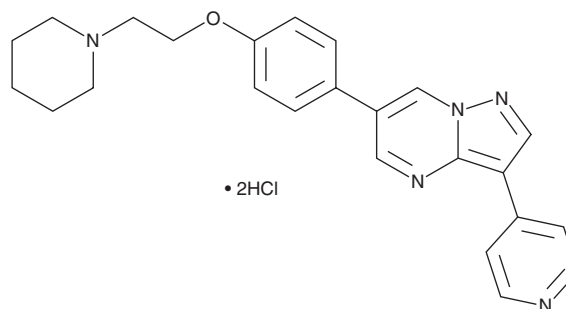
# PRODUCT INFORMATION



## Dorsomorphin (hydrochloride)

Item No. 21207

**CAS Registry No.:** 1219168-18-9  
**Formal Name:** 6-[4-[2-(1-piperidinyl)ethoxy]phenyl]-3-(4-pyridinyl)-pyrazolo[1,5-a]pyrimidine, dihydrochloride  
**Synonyms:** BML-275, Compound C, CpdC  
**MF:** C<sub>24</sub>H<sub>25</sub>N<sub>5</sub>O • 2HCl  
**FW:** 472.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 238, 271, 334, 366 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

Dorsomorphin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the dorsomorphin (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Dorsomorphin (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of dorsomorphin (hydrochloride) in these solvents is approximately 0.5 and 1 mg/ml, respectively.

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 dorsomorphin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dorsomorphin (hydrochloride) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Dorsomorphin (hydrochloride) is a potent, reversible inhibitor of AMP kinase (AMPK; K<sub>i</sub> = 109 nM) that does not exhibit significant activity on structurally related kinases, including ZAPK, SYK, PKCθ, PKA, and JAK3.<sup>1</sup> Dorsomorphin can also dose-dependently inhibit the bone morphogenetic protein type 1 receptors ACTR-I (ALK2), BMPR-IA (ALK3), and BMPR-IB (ALK6).<sup>2</sup> 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.<sup>3</sup>

### 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).

#### 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