

Store at  
-20°C

# Dorsomorphin (Compound C)



#60887

5 mg

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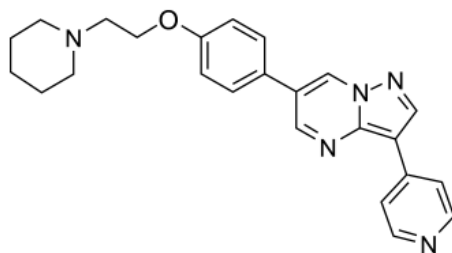
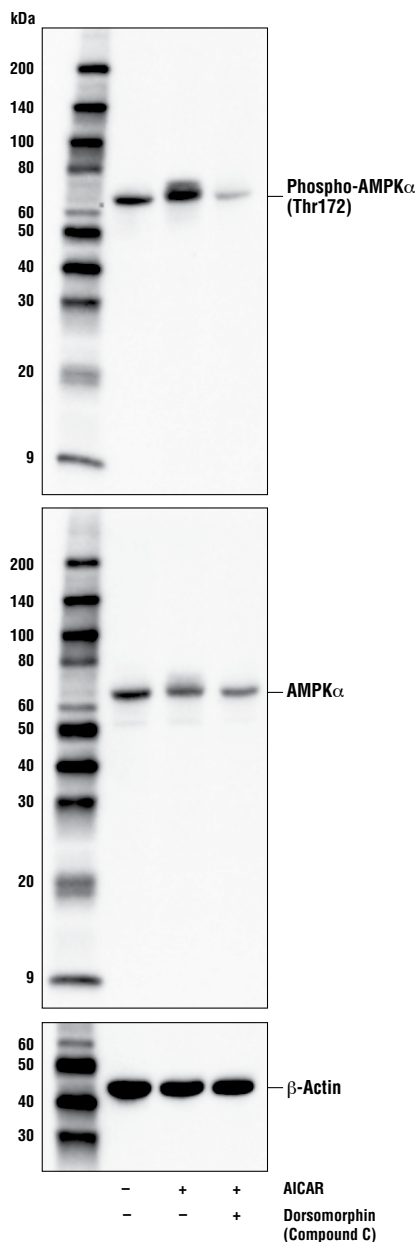
New 12/19

**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Background:** Dorsomorphin (Compound C) is a potent and reversible AMP-activated protein kinase (AMPK) inhibitor that competes with ATP in the absence of AMP with a  $K_i$  value of 109 nM (1). This small compound is selective, displaying no significant inhibition of other kinases inclusive of ZAPK, SYK, PKC $\theta$ , PKA, and JAK3 (1). Research has shown that Dorsomorphin (Compound C) inhibits tumor cell proliferation and induces apoptosis through mechanisms independent of the AMPK pathway (2). This compound inhibits the effects that AICAR and metformin have on inactivating acetyl-CoA carboxylase (ACC) and selectively inhibits the BMP type I receptors ALK2, ALK3, and ALK6 (1,3).

**Background References:**

- (1) Zhou, G. et al. (2001) *J Clin Invest* 108, 1167-74.
- (2) Liu, X. et al. (2014) *Mol Cancer Ther* 13, 596-605.
- (3) Yu, P.B. et al. (2008) *Nat Chem Biol* 4, 33-41.

**Molecular Formula:** C<sub>24</sub>H<sub>25</sub>N<sub>5</sub>O**Molecular Weight:** 399.5 g/mol**Solubility:** Soluble in DMSO at 4 mg/ml with warming.**Purity:** >98%**CAS:** 866405-64-3

Western blot analysis of extracts from C2C12 cells, untreated (-) or treated with combinations of the following treatments as indicated: AICAR #9944 (2 mM, 24 hr; +) and Dorsomorphin (Compound C) (10  $\mu$ M, 24 hr; +), using Phospho-AMPK $\alpha$  (Thr172) (40H9) Rabbit mAb #2535 (upper), AMPK $\alpha$  Antibody #2532 (middle), or  $\beta$ -Actin (D6A8) Rabbit mAb #8457 (lower).

**Storage:** Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

**Directions for Use:** Dorsomorphin (Compound C) is supplied as a lyophilized powder. For a 10 mM stock, reconstitute 5 mg of powder in 1.25 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected *Species enclosed in parentheses are predicted to react based on 100% homology.*