

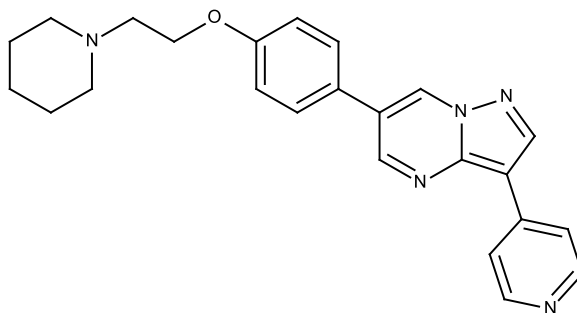
**Catalog # 10-1029**

**Dorsomorphin**

CAS# 866405-64-3

6-[4-[2-(1-Piperidinyloxy)ethoxy]phenyl]-3-(4-pyridinyl)-pyrazolo[1,5-a]pyrimidine; Compound C

Lot # FBS1052



Potent, selective and ATP-competitive inhibitor of AMP-activated protein kinase (AMPK) ( $K_i = 109 \text{ nM}$ ).<sup>1</sup> It displays no significant inhibition of ZAPK, SYK, PKCT, PKA and JAK3. It inhibits bone morphogenetic protein (BMP) type I receptors (ALK2, ALK3 and ALK6).<sup>2</sup> Dorsomorphin has been shown to promote cardiomyogenesis in mouse embryonic stem cells (ESCs) *in vitro*.<sup>3</sup> Induces autophagy in cancer cell lines via a mechanism independent of AMPK inhibition.<sup>4</sup>

- 1) Zhou et al.(2001) *Role of AMP-activated protein kinase in mechanism of metformin action*; J. Clin. Invest. **108**, 1167
- 2) Yu et al (2008) *Dorsomorphin inhibits BMP signals required for embryogenesis and iron metabolism*. Nat.Chem.Biol.**4** 33.
- 3) Hao et al (2008) *Dorsomorphin, a selective small molecule inhibitor of BMP signaling, promotes cardiomyogenesis in embryonic stem cells*. PLoS ONE **3** 2904
- 4) Vucicevic et al (2011) *Compound C induces protective autophagy in cancer cells through AMPK inhibition-independent blockade of Akt/mTOR pathway*. Autophagy **7** 40

#### PHYSICAL DATA

|                        |                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Molecular Weight:      | 399.49                                                                                                                              |
| Molecular Formula:     | C <sub>24</sub> H <sub>25</sub> N <sub>5</sub> O                                                                                    |
| Purity:                | 98% by TLC                                                                                                                          |
|                        | NMR: (Conforms)                                                                                                                     |
| Solubility:            | DMSO (up to 3 mg/ml with warming)                                                                                                   |
| Physical Description:  | Pale yellow solid                                                                                                                   |
| Storage and Stability: | Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months. |

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**