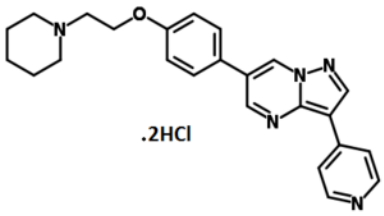
PRODUCT SPECIFICATIONS SHEET:

Stemolecule™ Dorsomorphin

Product Name	Stemolecule™ Dorsomorphin
Description	Stemolecule Dorsomorphin dihydrochloride is a potent inhibitor of AMP-activated protein kinase (AMPK) (K_i=109 nM) and bone morphogenic protein (BMP) signaling[1, 2]. It was identified in a screen for compounds that perturb dorsoventral axis formation in zebrafish[3]. Dorsomorphin functions through inhibition of BMP type I receptors ALK2, ALK3 and ALK6 and thus blocks BMP-mediated SMAD1/5/8 phosphorylation[3]. BMP signaling coordinates developmental patterning and have essential physiological roles in mature organisms[4,5]. Dorsomorphin has been used to probe BMP signaling in iron-hepcidin homeostasis, cardiomyogenesis and osteogenesis[3,6,7].
Catalog Number	AMS.04-0024
Size	2 mg
Alternate Names	6-[4-(2-piperidin-1-ylethoxy)phenyl]-3-pyridin-4-ylpyrazolo[1,5-*a*]pyrimidine
Chemical Formula	$C_{24}H_{25}N_5O{\cdot}2HCl{\cdot}H_2O$
Structure	
Molecular Weight	490.43
CAS Number	866405-64-3
Purity	>99% pure by HPLC
Formulation	Yellow solid
Solubility	For a 10 mM concentrated stock solution of Dorsomorphin, reconstitute the compound by adding 407.8 µL of DMSO to the entire contents of the vial. If precipitate is observed,

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warm the solution to 37 °C for 2-5 min. For cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance of DMSO is less than 0.5%. Dorsomorphin is reported to be soluble in DMSO at 100 mM and water at 100 mM.

Storage and Stability

Store powder at 4 °C or -20 °C, protected from light.

Information about the stability of Stemolecules in solution is largely not available. As a general guideline, we recommend that stock solution be freshly made and stored in aliquots at -20 °C. The effect of storage of stock solutions should be verified for each application.

Quality Control

The purity of Dorsomorphin was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. The structure was verified by NMR spectroscopy. Cellular toxicity was tested on mouse embryonic stem cells.

Regulatory Disclaimer

For research use only. Not for use in therapeutic or diagnostic procedures.

References

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