bio-techne
TOCRIS

Print Date: Aug 9th 2024

Certificate of Analysis

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Product Name: **Dorsomorphin dihydrochloride** **Catalog No.: 3093** **Batch No.: 6**

CAS Number: 1219168-18-9

IUPAC Name: 6-[4-[2-(1-Piperidinyl)ethoxy]phenyl]-3-(4-pyridinyl)-pyrazolo[1,5-*a*]pyrimidine dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{24}H_{25}N_5O.2HCl.1½H_2O$

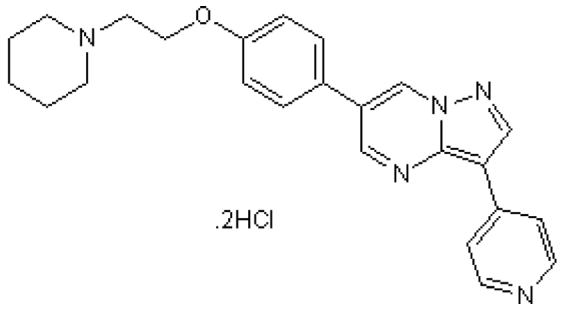
Batch Molecular Weight: 499.43

Physical Appearance: Pale yellow solid

Solubility: water to 100 mM
DMSO to 20 mM with gentle warming

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.0% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57.72	6.05	14.02
Found	57.66	6.02	14.01

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Description:

Dorsomorphin dihydrochloride is a potent inhibitor of AMP-activated protein kinase (AMPK) (K_i = 109 nM). Displays no significant activity on several structurally related kinases including ZAPK, SYK, PKCθ, PKA and JAK3. Inhibits AMPK activation induced by AICAR (Cat. No. 2840) and Metformin (Cat. No. 2864). Dorsomorphin dihydrochloride also inhibits bone morphogenetic protein (BMP) type I receptors (ALK2, ALK3 and ALK6), promotes cardiomyogenesis in mouse embryonic stem cells (ESCs) in vitro and promotes neural differentiation of hPSCs as part of a chemical cocktail. The compound can also be used in protocols for the chemical reprogrammi... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

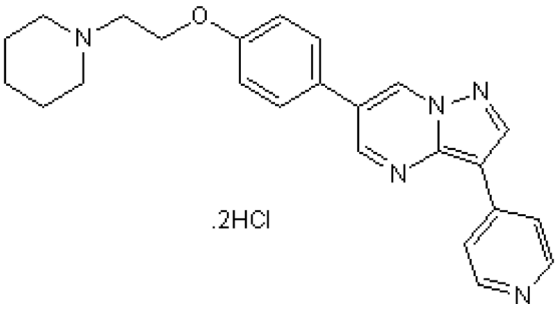
Batch Molecular Formula: $C_{24}H_{25}N_5O.2HCl.1½H_2O$

Batch Molecular Weight: 499.43

Physical Appearance: Pale yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 20 mM with gentle warming

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Schafer *et al* (2023) An *in vivo* neuroimmune organoid model to study human microglia phenotypes. Cell ***186*** 1222. PMID: 37172564.

Guan *et al* (2022) Chemical reprogramming of human somatic cells to pluripotent stem cells. Nature ***605*** 325. PMID: 35418683.

Chen *et al* (2019) Chemically defined neural conversion of human pluripotent stem cells. Methods Mol.Biol. ***1919*** 59. PMID: 30656621.

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