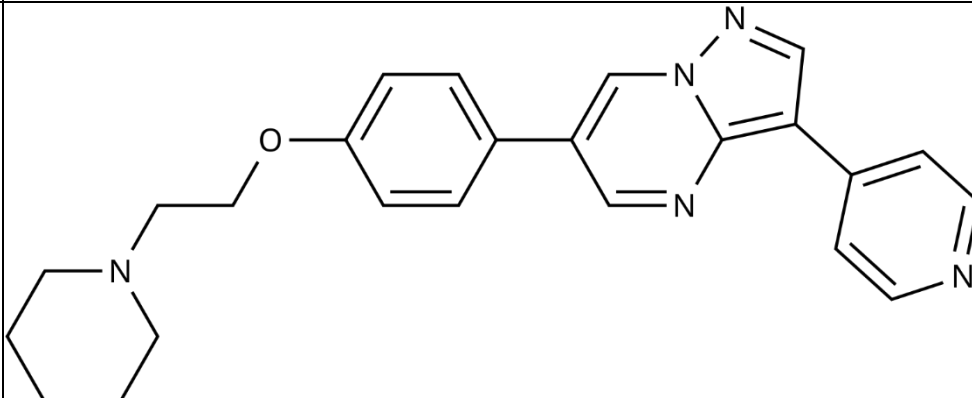


TrailBio® Dorsomorphin User Instructions

Product Configurations

Catalog Number	Size	Quantity
TB34174	10 mg	1 vial

Product Description

Category	Specification
Product	Dorsomorphin
Synonyms	Compound C; BML-275
CAS Number	866405-64-3
MDL Number	MFCD08705402
Formula	C ₂₄ H ₂₅ N ₅ O
Molecular Weight	399.49 g/mol
Storage (Solid)	4 °C for up to 2 years, protect from light
Storage (Solution)	-80 °C for up to 2 years or -20 °C for up to 1 year, protect from light
Shipping	Ambient temperature
Chemical Structure	

Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	Light yellow to yellow
Purity	≥98%

Solubility

Solvent	Solubility	Notes
DMSO	25 mg/ml (62.58 mM)	May require sonication; use 1 M HCl to bring solution to pH 3
1M HCl	50 mg/ml (125.16 mM)	May require sonication; use HCl to bring solution to pH 1

Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
1 mg	2.503 ml	0.501 ml	0.250 ml
5 mg	12.516 ml	2.503 ml	1.252 ml
10 mg	25.032 ml	5.006 ml	2.503 ml

Biological Description

Dorsomorphin is a pyrazolopyrimidine compound that inhibits several protein kinases, including AMPK and the BMP type I receptors ALK2, ALK3, and ALK6. Inhibition of these BMP receptors reduces SMAD1/5/8 phosphorylation and BMP-responsive transcription, while inhibition of AMPK can modify cellular energy sensing. Together, these activities can affect developmental patterning, lineage specification, metabolism, and autophagic responses. Researchers can use dorsomorphin to investigate BMP-dependent development, AMPK-related metabolism, neural induction, and stem-cell differentiation.

Associated Pathways and Applications

Category	Description
Associated Pathways	BMP/SMAD1/5/8 signaling; AMPK-mediated energy sensing
Applications	BMP receptor inhibition; neural induction and patterning; stem-cell and organoid differentiation

Activity & Targets

Target	K _i
AMPK	109 nM

Notes

- When using DMSO-based stock solutions, maintain a final DMSO concentration of <0.5% in cell culture applications to minimize potential cellular toxicity, unless a higher concentration has been validated for the specific cell type.
- Avoid repeated freeze-thaw cycles. Prepare single-use aliquots when possible.
- Compound may collect on the vial cap or neck during shipping; centrifuge briefly before opening to bring contents to the bottom.
- Certificate of Analysis (CoA) available upon request. Please contact support@trailbio.com.

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