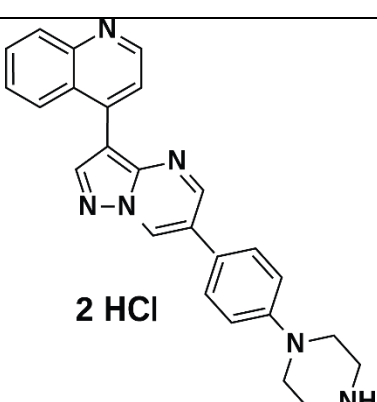


## TrailBio® LDN-193189 Dihydrochloride User Instructions

### Product Configurations

Catalog Number	Size	Quantity
TB31976	10 mg	1 vial
TB86388	50 mg	1 vial

### Product Description

Category	Specification
Product	LDN-193189 dihydrochloride
Synonyms	DM-3189 dihydrochloride; DM3189 dihydrochloride
CAS Number	1435934-00-1
MDL Number	MFCD17392570
Formula	C <sub>25</sub> H <sub>24</sub> Cl <sub>2</sub> N <sub>6</sub>
Molecular Weight	479.40 g/mol
Storage (Solid)	4 °C, for up to 3 years, sealed storage, away from moisture
Storage (Solution)	-80 °C for up to 6 months or -20 °C for up to 1 month, sealed storage, away from moisture
Shipping	Ambient temperature
Chemical Structure	 <p>2 HCl</p>

## Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	Orange to red
Purity	≥98%

## Solubility

Solvent	Solubility	Notes
DMSO	≤10 mg/ml (20 mM)	may require sonication and warming up to 60 °C
H <sub>2</sub> O	≤25 mg/ml (52 mM)	may require sonication

## Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
5 mg	10.430 ml	2.086 ml	1.043 ml
10 mg	20.859 ml	4.172 ml	2.086 ml
50 mg	104.297 ml	20.859 ml	10.430 ml

## Biological Description

LDN-193189 (dihydrochloride) is a potent and selective inhibitor of BMP type I receptors, specifically targeting ALK2 and ALK3. It suppresses BMP-mediated transcriptional activity and is commonly used to study bone morphogenetic protein signaling pathways and related disorders.

## Associated Pathways & Applications

Category	Description
Associated Pathways	ALK; TGF-β/Smad; stem cell/Wnt; BMP inhibition
Applications	Stem cell differentiation; neural induction workflows; organoid culture; BMP pathway studies

## IC<sub>50</sub> & Targets

Target	IC <sub>50</sub>
ALK2	5 nM
ALK3	30 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](mailto:support@trailbio.com).
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## Also available from Trailhead Biosystems®

### Cells

- TrailBio® Vascular Leptomeningeal Cells (Cat No. EC040003010)
- TrailBio® Hematopoietic Progenitor Cells (Cat No. ME060001020)
- TrailBio® Endothelial Cells (Cat No. ME010101021)

### Small Molecules

- TrailBio® Y-27632 dihydrochloride (Cat No. TB 28056)
- TrailBio® Cytarabine (Ara-C) (Cat No. TB 47622)
- TrailBio® SB-431542 (Cat No. TB 46416)
- TrailBio® LDN-193189 dihydrochloride (Cat No. TB 86388)
- TrailBio® CHIR-99021 monohydrochloride (Cat No. TB 54925)

### Services

- Custom iPSC Differentiation

For details of the above products and services, visit [www.trailbio.com](http://www.trailbio.com).



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