

Certificate of Analysis

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Product Name: LDN 193189 dihydrochloride

Catalog No.: 6053

Batch No.: 14

CAS Number: 1435934-00-1

IUPAC Name: 4-[6-[4-(1-Piperazinyl)phenyl]pyrazolo[1,5-a]pyrimidin-3-yl]quinoline dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₅H₂₂N₆·2HCl·2½H₂O

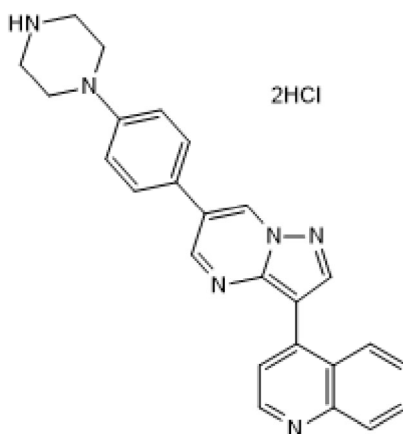
Batch Molecular Weight: 519.93

Physical Appearance: Orange solid

Solubility: water to 50 mM
DMSO to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9 % purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	57.75	5.53	16.16	13.64
Found	57.26	5.14	15.96	13.48

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

LDN 193189 dihydrochloride is a potent and selective ALK2 and ALK3 inhibitor (IC₅₀ values are 5 and 30 nM, respectively); inhibits BMP4-mediated Smad1/5/8 activation. Exhibits >200-fold selectivity for BMP signaling over TGF-β signaling. Also exhibits selectivity over AMPK, PDGFR and MAPK signaling. Promotes neural induction of hPSCs in combination with SB 431542 (Cat.No. 1614). Also induces differentiation of hPSCs into nociceptive sensory neurons in combination with SB 431542 (Cat.No. 1614), SU 5402 (Cat.No.3300), CHIR 99021 (Cat.No. 4423) and DAPT (Cat.No. 2634). LDN 193189 synthesized to cGMP guidelines and LDN 193189 in solu... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

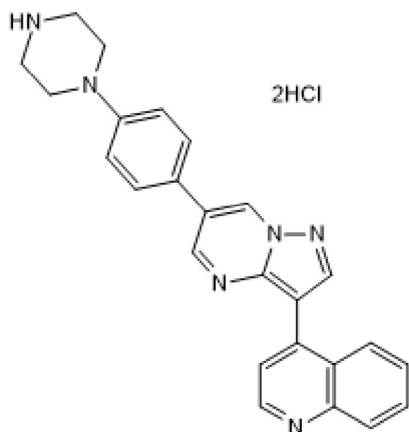
Batch Molecular Formula: C₂₅H₂₂N₆·2HCl·2½H₂O

Batch Molecular Weight: 519.93

Physical Appearance: Orange solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Wimmer et al (2019) Human blood vessel organoids as a model of diabetic vasculopathy. *Nature* **565** 505. PMID: 30651639.

Dye et al (2015) *In vitro* generation of human pluripotent stem cell derived lung organoids. *Elife* **4**. PMID: 25803487.

Lancaster et al (2015) Generation of Cerebral Organoids from Human Pluripotent Stem Cells *Nat. Protoc.* **9** 2329. PMID: 25188634.

Storage: Store at -20°C

Solubility & Usage Info:

water to 50 mM

DMSO to 10 mM

When purchased as a 1mg unit, this product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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.

Licensing Information:

Sold for research purposes under exclusive agreement from The Brigham and Women's Hospital Inc. US patents 8,507,501 and 9,045,484

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