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# **DATASHEET**

LDN193189 hydrochloride (LDN)

### **Product overview**

Name LDN193189 hydrochloride (LDN)

Cat No HB5624 Alternative names LDN Purity >98%

**Description** Potent, selective ALK2/ALK3 inhibitor which also promotes neural induction of hPSCs. May be used as

a component for brain organoid production.

## **Biological Data**

**Biological description** LDN193189 hydrochloride is a potent and selective ALK2/ALK3 inhibitor (IC<sub>50</sub> values are 5 and 30 nM)

which inhibits BMP4-mediated Smad1/5/8 phosphorylation. It is a derivative of dorsomorphin.

LDN193189 is frequently used in stem cell research. It promotes differentiation of neural progenitor

cells from hPSCs.

It may be used as a component for brain organoid production.

# **Solubility & Handling**

Solubility overview
Storage instructions

Soluble in water (50 mM), and in DMSO (20 mM)

-20°C

Storage of solutions Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

**Shipping Conditions** 

**Important** 

Stable for ambient temperature shipping. Follow storage instructions on receipt.

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

for human or veterinary use

#### **Chemical Data**

Chemical name Molecular Weight Chemical structure 4-[6-[4-(1-Piperazinyl)phenyl]pyrazolo[1,5-a]pyrimidin-3-yl]quinoline hydrochloride 442.94

Molecular Formula CAS Number PubChem identifier C<sub>25</sub>H<sub>22</sub>N<sub>6</sub>.HCl 1435934-00-1 91900717

SMILES InChi

**InChiKey** 

N1(C2=CC=C(C3=CN4N=CC(C5=CC=NC6=C5C=CC=C6)=C4N=C3)C=C2)CCNCC1.Cl InChl=1S/C25H22N6.2ClH/c1-2-4-24-22(3-1)21(9-10-27-24)23-16-29-31-17-19(15-28-25(23)31)18-

5-7-20(8-6-18)30-13-11-26-12-14-30;;/h1-10,15-17,26H,11-14H2;2\*1H2,12+14-14,14-14,14-

CMQXLLAILGGLRV-UHFFFAOYSA-N

Appearance Orange solid

### References

The specificities of small molecule inhibitors of the TGFß and BMP pathways.

Vogt et al (2011) Cell Signal 23(11)

**PubMedID** 21740966

Dorsomorphin and LDN-193189 inhibit BMP-mediated Smad, p38 and Akt signalling in C2C12 cells.

Boergermann et al (2010) Int J Biochem Cell Biol 42(11)

**PubMedID** 20691279

Small molecules dorsomorphin and LDN-193189 inhibit myostatin/GDF8 signaling and promote functional myoblast differentiation.

Horbelt et al (2015) J Biol Chem 290(6) **PubMedID**25368322