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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.

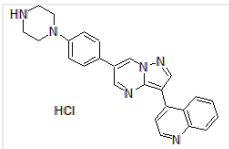
Biological Data

Biological description	LDN193189 hydrochloride is a potent and selective ALK2/ALK3 inhibitor (IC ₅₀ 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.
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Solubility & Handling

Storage instructions	-20 °C
Solubility overview	Soluble in water (50 mM), and in DMSO (20 mM)
Important	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	4-[6-[4-(1-Piperazinyl)phenyl]pyrazolo[1,5-a]pyrimidin-3-yl]quinoline hydrochloride
Molecular Weight	442.94
Chemical structure	
Molecular Formula	C ₂₅ H ₂₂ N ₆ ·HCl
CAS Number	1435934-00-1
PubChem identifier	91900717
SMILES	<chem>N1(C2=CC=C(C3=CN4N=CC(C5=CC=NC6=C5C=CC=C6)=C4N=C3)C=C2)CCNCC1.Cl</chem>
InChi	InChI=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*1H
InChiKey	CMQXLLAILGGLRV-UHFFFAOYSA-N
Appearance	Orange solid

References

The specificities of small molecule inhibitors of the TGF β 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](#)
