LDN-193189 . dihydrochloride

BMP type I receptor (BMP I) inhibitor

LDN-193189 . dihydrochloride is a potent and selective inhibitor of ALK2 and ALK3 (IC_{50} values of 5 nM and 30 nM, respectively), making it a valuable tool in the study of bone morphogenetic protein (BMP) signaling pathways. This compound is widely used in research for its ability to inhibit SMAD1/5/8 phosphorylation, which is crucial for various cellular processes.

Key features and applications include:

- **High Selectivity:** Exhibits over 200-fold selectivity for BMP signaling over TGF-β signaling.
- **Neural Induction:** Promotes the neural induction of human pluripotent stem cells (hPSCs) when used in combination with other inhibitors.
- **Stem Cell Research:** Facilitates the differentiation of hPSCs into nociceptive sensory neurons and motor neurons.
- **Developmental Biology:** Used in studies to understand the role of BMP signaling in development and disease.

Relevant disease states include:

- **Cancer:** LDN-193189 . dihydrochloride has been studied for its potential in inhibiting certain pathways involved in cancer progression.
- **Fibrodysplasia Ossificans Progressiva (FOP):** FOP is a rare genetic disorder characterized by the abnormal development of bone in muscles, tendons, and other soft tissues. LDN-193189 . dihydrochloride has shown promise in inhibiting the BMP signaling pathway, which is crucial in the pathogenesis of FOP. By targeting ALK2, the compound helps prevent the inappropriate bone formation that occurs in this condition.
- **Atherosclerosis:** LDN-193189 . dihydrochloride has also been investigated in the context of atherosclerosis, a condition where plaque builds up inside the arteries. In animal models, the compound has been shown to inhibit the development of atheroma and associated vascular inflammation, suggesting it could help in

- GMP format available

managing cardiovascular diseases.

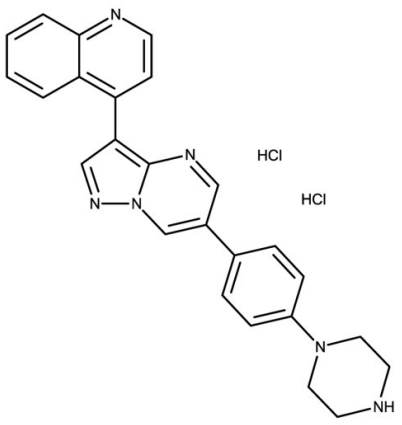
Ordering Information

Order Online »

ENZ-CHM327-0010	10mg
ENZ-CHM327-0050	50mg

Manuals, SDS & CofA

View Online »


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HCl
HCl
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Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Solutions in DMSO or water may be stored at -20°C for up to 2 months.
Handling	Before opening the vial, please centrifuge to gather the compound at the bottom of the vial.
Short Term Storage	-20°C
Long Term Storage	-20°C
Shipping	Ambient Temperature

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	4-[6-[4-(1-Piperazinyl)phenyl]pyrazolo[1,5-a]pyrimidin-3-yl]-quinoline dihydrochloride, DM-3189
Appearance	Orange-yellow solid.
CAS	1435934-00-1
Couple Target	Activin receptor, BMP receptor
Couple Type	Inhibitor
Formula	$C_{25}H_{22}N_6$. 2HCl
Identity	Identity determined by NMR.
MW	479.40
Purity	≥99% (HPLC)
Solubility	Soluble in DMSO and water (5 mg/ml).

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