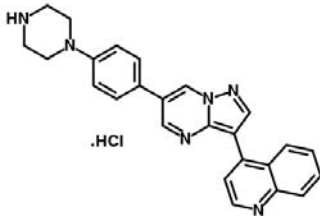
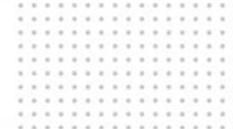


PRODUCT SPECIFICATION SHEET

| | |
|------------------------------|--|
| Product Name | Stemolecule™ LDN-193189 |
| Description | LDN-193189 is a cell permeable small molecule inhibitor of bone morphogenetic protein (BMP) type I receptors ALK2 and ALK3 (IC ₅₀ = 5 nM and 30 nM respectively) ¹ . LDN-193189 was derived from structure-activity relationship studies of Dorsomorphin and functions primarily through prevention of Smad1, Smad5, and Smad8 phosphorylation ¹⁻³ . LDN-193189 only weakly inhibits ALK4, ALK5, and ALK7 ¹ . BMP signaling coordinates developmental patterning and has essential physiological roles in mature organisms ^{4,5} . LDN-193189 has been used to reduce ectopic ossification in a mouse model of <i>fibrodysplasia ossificans progressiva</i> ¹ . Stemolecule LDN-193189 in Solution is a ready to use 10 mM stock solution for stem cell culture. |
| Catalog Number | 04-0074-02 |
| Size | 2 mg |
| Concentration | 10 mM in DMSO |
| Formulation | 10 mM solution of LDN-193189 in DMSO (2 mg in 451.5 µl) |
| Alternate Name | 4-(6-(4-(piperazin-1-yl)phenyl)pyrazolo[1,5-a]pyrimidin-3-yl)quinoline hydrochloride |
| Chemical Name | C ₂₅ H ₂₂ N ₆ · HCl |
| Structure |  |
| Molecular Weight | 442.94 |
| CAS Number | 1062368-24-4 |
| Purity | Greater than 96% by HPLC analysis |
| Storage and Stability | Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed. |
| Quality Control | The purity of LDN-193189 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. No acute cytotoxicity was observed in mouse embryonic stem cells following a 6 hour exposure to 1 nM – 1 µM of LDN-193189. |

For research use only. Not for use in diagnostic procedures.

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PRODUCT SPECIFICATION SHEET

References

1. Yu, P.B., Deng, D.Y., Lai, C.S., Hong, C.C., Cuny, G.D., Buxsein, M.L., Hong, D.W., McManus, P.M., Katagiri, T., Sachidanandan, C., Kamiya, N., Fukuda, T., Mishina, Y., Peterson, R.T., and Bloch, K.D. (2008) BMP type I receptor inhibition reduces heterotopic [corrected] ossification. *Nat Med* 14: 1363-1369.
2. Yu, P.B., Hong, C.C., Sachidanandan, C., Babitt, J.L., Deng, D.Y., Hoyng, S.A., Lin, H.Y., Bloch, K.D., and Peterson, R.T. (2008) Dorsomorphin inhibits BMP signals required for embryogenesis and iron metabolism. *Nat Chem Biol* 4: 33-41.
3. Cuny, G.D., Yu, P.B., Laha, J.K., Xing, X., Liu, J.F., Lai, C.S., Deng, D.Y., Sachidanandan, C., Bloch, K.D., and Peterson, R.T. (2008) Structure-activity relationship study of bone morphogenetic protein (BMP) signaling inhibitors. *Bioorg Med Chem Lett* 18: 4388-4392.
4. Heisenberg, C.P., and Solnica-Krezel, L. (2008) Back and forth between cell fate specification and movement during vertebrate gastrulation. *Curr Opin Genet Dev* 18: 311-316.
5. Cain, J.E., Hartwig, S., Bertram, J.F., and Rosenblum, N.D. (2008) Bone morphogenetic protein signaling in the developing kidney: present and future. *Differentiation* 76: 831-842.

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