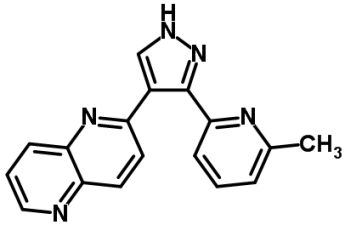
Product Specification Sheet

Product Name	Stemolecule™ ALK5 Inhibitor
Description	Stemolecule ALK5 Inhibitor is a selective and ATP-competitive inhibitor of the TGF-β family type I receptor activin receptor-like kinase (ALK5)[1]. The ALK5 Inhibitor works by preventing autophosphorolation of ALK5. It has also been shown that ALK5 can replace Sox2 when reprogramming cells to induced pluripotent stem (iPS) cells. Through inhibition of the TGF-β pathway, ALK5 works to reprogram cells that have been transduced with Oct4, Klf4, and c-Myc[2].
Catalog Number	04-0015
Size	1 mg
Alternate Name	2-(3-(6-methylpyridine-2-yl)-1H-pyrazol-4-yl)-1,5-naphthyridine
Chemical Formula	$C_{17}H_{13}N_5$
Structure	
Molecular Weight	287.32
CAS Number	446859-33-2
Purity	Greater than 99% by HPLC analysis
Formulation	Yellow solid
Solubility	For a 10 mM concentrated stock solution of ALK5 Inhibitor, reconstitute the compound by adding 348 µl of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance to DMSO is less than 0.5%. This molecule is soluble in DMSO at 100 mM and methanol at 17 mM.
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 ALK5 Inhibitor was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of ALK5 Inhibitor was tested on HeLa and HEK293 cells.

References

1. Gellibert, F., Woolven, J., Fouchet, M.H., Mathews, N., Goodland, H., Lovegrove, V., Laroze, A., Nguyen, V.L., Sautet, S., Wang, R., Janson, C., Smith, W., Krysa, G., Boullay, V., De Gouville, A.C., Huet, S., and Hartley, D. (2004) Identification of 1, 5-naphthyridine derivatives as a novel series of potent and selective TGF-beta type I receptor inhibitors. J Med Chem 47: 4494-4506.
2. Ichida, J.K., Blanchard, J., Lam, K., Son, E.Y., Chung, J.E., Egli, D., Loh, K.M., Carter, A.C., Di Giorgio, F.P., Koszka, K., Huangfu, D., Akutsu, H., Liu, D.R., Rubin, L.L., and Eggan, K. (2009) A small-molecule inhibitor of Tgf-β signaling replaces *Sox2* in reprogramming by inducing Nanog. Cell Stem Cell 5: 491-503.

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