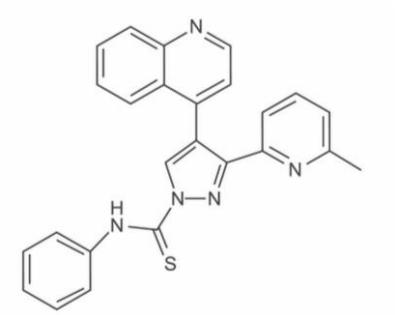
TECHNICAL DATA SHEET



A83-01

Catalog Number: ST10001

Size	2 mg
Description	A83-01 is a selective inhibitor of TGF-β type I receptor ALK5 kinase, type I activin/nodal receptor ALK4 and type I nodal receptor ALK7 (IC_{50} values are 12, 45 and 7.5 nM respectively). A83-01 blocks phosphorylation of Smad2 and inhibits TGF-β-induced epithelial-to-mesenchymal transition. Only weakly inhibits ALK-1, -2, -3, -6 and MAPK activity. A83-01 has been shown to inhibit differentiation of rat induced pluripotent stem cells and increase clonal expansion efficiency. It helps maintain homogeneity and long-term in vitro self-renewal of human iPSCs.
Molecular Weight	421.52
Molecular Formula	$C_{25}H_{19}N_5S$
Chemical Name	3-(6-Methyl-2-pyridinyl)-N-phenyl-4-(4-quinolinyl)-1H-pyrazole-1-carbothioamide
CAS Number	909910-43-6
PubChem Identifier	16218924
Appearance	Pale yellow solid
Purity	>96% by HPLC Analysis
Solubility	Soluble in DMSO at 50 mM
Reconstitution	For a 10 mM concentrated stock solution, reconstitute the compound by adding 475 µL of DMSO to the entire contents of vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes.
Recommended Usage	For use in cell culture, warm medium just prior to adding the reconstituted compound. Once the compound is added, mix and filter-sterilize the medium using a 0.2 µM low-protein binding filter.
Storage and Stability	Solid: Shipped at room temperature. Store at -20°C. Stable for 6 months when stored as directed. Solution: Following reconstitution, store aliquots in tightly sealed vials at -20°C. Avoid repeated freeze-thaw cycles.
References	Hoberg, M., et al. (2008) Attachment to laminin-111 facilitates transforming growth factor β-induced expression of matrix metalloproteinase-2 in synovial fibroblasts. Ann Rheum Dis 66: 446-451. PMID: 17124250. Li, W., et al. (2009) Generation of rat and human induced pluripotent stem cells by combining genetic reprogramming and chemical inhibitors. Cell Stem Cell 4: 16-19. PMID: 19097958. Tojo, M., et al. (2005) The ALK-5 inhibitor A-83-01 inhibits Smad signaling and epithelial-to-mesenchymal transition by transforming growth factor-beta. Cancer Sci 96: 791-800. PMID: 16271073.

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