

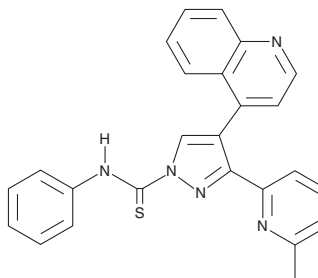
# PRODUCT INFORMATION



## A 83-01

Item No. 9001799

**CAS Registry No.:** 909910-43-6  
**Formal Name:** 3-(6-methyl-2-pyridinyl)-N-phenyl-4-(4-quinolinyl)-1H-pyrazole-1-carbothioamide  
**MF:** C<sub>25</sub>H<sub>19</sub>N<sub>5</sub>S  
**FW:** 421.5  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 227, 307 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

A 83-01 is supplied as a crystalline solid. A stock solution may be made by dissolving the A 83-01 in the solvent of choice. A 83-01 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of A 83-01 in these solvents is approximately 0.3, 14, and 25 mg/ml, respectively.

A 83-01 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, A 83-01 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. A 83-01 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

A 83-01 is an inhibitor of TGF-β type I receptor kinase (ALK5), activin type IB receptor (ALK4), and nodal type I receptor (ALK7) (IC<sub>50</sub>s = 12, 45, and 7.5 nM, respectively).<sup>1</sup> It blocks the phosphorylation of SMAD2/3 and inhibits TGF-β-induced epithelial-to-mesenchymal transition.<sup>1</sup> It has little effect on bone morphogenic type I receptors, p38 mitogen-activated protein kinase, or ERK.<sup>1</sup> A 83-01 has been used to reprogram fibroblasts into alternative lineages, including neural stem cells and cardiomyocytes.<sup>2,3</sup>

### References

1. Tojo, M., Hamashima, Y., Hanyu, A., *et al.* The ALK-5 inhibitor A-83-01 inhibits Smad signaling and epithelial-to-mesenchymal transition by transforming growth factor-β. *Cancer Sci.* **96(11)**, 791-800 (2005).
2. Cao, N., Huang, Y., Zheng, J., *et al.* Conversion of human fibroblasts into functional cardiomyocytes by small molecules. *Science* **Apr**, (2016).
3. Zhang, M., Lin, Y. H., Sun, Y. J., *et al.* Pharmacological reprogramming of fibroblasts into neural stem cells by signaling-directed transcriptional activation. *Cell Stem Cell* **Apr**, (2016).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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