

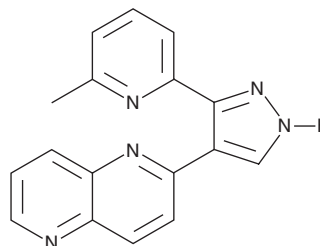
# PRODUCT INFORMATION



## ALK5 Inhibitor II

Item No. 14794

**CAS Registry No.:** 446859-33-2  
**Formal Name:** 2-[3-(6-methyl-2-pyridinyl)-1H-pyrazol-4-yl]-1,5-naphthyridine  
**Synonyms:** E 616452, RepSox, SJN 2511  
**MF:** C<sub>17</sub>H<sub>13</sub>N<sub>5</sub>  
**FW:** 287.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 331 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

ALK5 inhibitor II is supplied as a crystalline solid. A stock solution may be made by dissolving the ALK5 inhibitor II in the solvent of choice, which should be purged with an inert gas. ALK5 inhibitor II is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ALK5 inhibitor II in these solvents is approximately 1, 10, and 12.5 mg/ml, respectively.

ALK5 inhibitor II is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ALK5 inhibitor II should first be dissolved in DMF and then diluted with the aqueous buffer of choice. ALK5 inhibitor II has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

ALK5 inhibitor II is a cell permeable, selective inhibitor of the TGF-β type 1 activin like kinase receptor ALK5 (IC<sub>50</sub>s = 4, 18, and 23 nM for ALK5 autophosphorylation, TGF-β cellular assay, and ALK5 binding in HepG2 cells, respectively).<sup>1</sup> This inhibitor demonstrated less potent activity (IC<sub>50</sub>s > 16 μM) when tested against a panel of 9 related kinases, including p38 MAPK and GSK3.<sup>1</sup> At 25 μM, this compound has been used to induce stem cell pluripotency by replacing the reprogramming transcription factor Sox2 via inhibition of the TGF-β signaling pathway and induction of Nanog transcription.<sup>2</sup>

### References

1. Gellibert, F., Wollven, J., Fouchet, M.H., *et al.* Identification of 1,5-naphthyridine derivatives as a novel series of potent and selective TGF-β type I receptor inhibitors. *J. Med. Chem.* **47(18)**, 4494-4506 (2004).
2. Ichida, J.K., Blanchard, J., Lam, K., *et al.* A small-molecule inhibitor of Tgf-β signaling replaces Sox2 in reprogramming by inducing Nanog. *Cell Stem Cell* **5(5)**, 491-503 (2009).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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