

**Product Name:** RepSox

**Catalog No.:** 3742

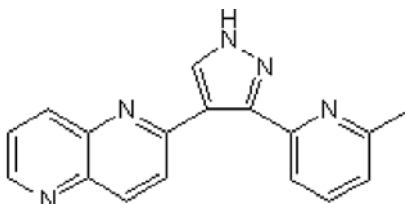
**Batch No.:** 3

CAS Number: 446859-33-2

IUPAC Name: 2-(3-(6-Methylpyridine-2-yl)-1*H*-pyrazol-4-yl)-1,5-naphthyridine

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>17</sub>H<sub>13</sub>N<sub>5</sub>·¼H<sub>2</sub>O  
**Batch Molecular Weight:** 291.82  
**Physical Appearance:** Yellow solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 20 mM  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.46 (Dichloromethane:Methanol:Ammonia soln. [90:9:1])  
**HPLC:** Shows 99.5% purity  
<sup>1</sup>H NMR: Consistent with structure  
 Mass Spectrum: Consistent with structure  
 Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	69.97	4.66	24
Found	70.31	4.65	23.75

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

RepSox is a potent and selective inhibitor of the TGF- $\beta$  type I receptor/ALK5 ( $IC_{50}$  values are 4 and 23 nM for TGF- $\beta$  type I receptor autophosphorylation and binding respectively). Selective for TGF- $\beta$  type I receptor over a range of kinases, including p38 MAPK, JNK1 and GSK3 ( $IC_{50}$  > 16  $\mu$ M). Enhances the efficiency of cellular reprogramming; replaces Sox2 by inducing Nanog expression. RepSox synthesized to Ancillary Material Grade also available. For more information about how RepSox may be used, see our protocols: Highly Efficient Generation of CiPSCs from MEFs, Generation of  $\beta$  cells from hPSCs, Reprogramming ... Please see product specific page on [www.tocris.com](http://www.tocris.com) for full description.

**Physical and Chemical Properties:**

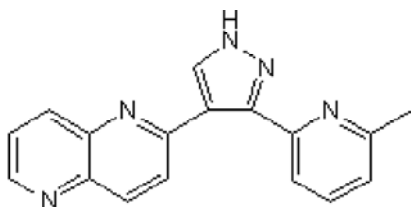
Batch Molecular Formula:  $C_{17}H_{13}N_5 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 291.82

Physical Appearance: Yellow solid

**Minimum Purity:**  $\geq 99\%$

**Batch Molecular Structure:**



**References:**

**Ichida *et al*** (2009) A small-molecule inhibitor of Tgf- $\beta$  signaling replaces Sox2 in reprogramming by inducing *Nanog*. *Cell Stem Cell* **5** 491. PMID: 19818703.

**Li *et al*** (2009) Generation of rat and human induced pluripotent stem cells by combining genetic reprogramming and chemical inhibitors. *Cell Stem Cell* **4** 16. PMID: 19097958.

**Gellibert *et al*** (2004) Identification of 1,5-naphthyridine derivatives as a novel series of potent and selective TGF- $\gamma$  type I receptor inhibitors. *J.Med.Chem.* **47** 4494. PMID: 15317461.

**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 20 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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