1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $\text{C}_{25}\text{H}_{19}\text{N}_{5}\text{S}$

Batch Molecular Weight: 421.52

Physical Appearance: Pale yellow solid

Solubility: DMSO to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:

![Chemical Structure]

2. ANALYTICAL DATA

HPLC: Shows 98.8% purity

$^1$H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>71.23</td>
<td>71.26</td>
</tr>
<tr>
<td>H</td>
<td>4.54</td>
<td>4.47</td>
</tr>
<tr>
<td>N</td>
<td>16.61</td>
<td>16.52</td>
</tr>
</tbody>
</table>

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

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**Product Name:** A 83-01

**Catalog No.:** 2939  
**Batch No.:** 9

**CAS Number:** 909910-43-6  
**IUPAC Name:** 3-(6-Methyl-2-pyridinyl)-N-phenyl-4-(4-quinolinyl)-1H-pyrazole-1-carbothioamide

**Description:**
Potent inhibitor of TGF-β type I receptor ALK5 kinase, type I activin/nodal receptor ALK4 and type I nodal receptor ALK7 (IC₅₀ values are 12, 45 and 7.5 nM respectively). Blocks phosphorylation of Smad2 and inhibits TGF-β-induced epithelial-to-mesenchymal transition. Only weakly inhibits ALK-1, -2, -3, -6 and MAPK activity. More potent than SB 431542 (Cat.No. 1614). Inhibits differentiation of rat induced pluripotent stem cells (iPSCs) and increases clonal expansion efficiency. Helps maintain homogeneity and long-term in vitro self-renewal of human iPSCs. Also promotes neural differentiation of hPSCs as part of a chemical cocktail.... Please see product datasheet on www.tocris.com for full description.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C₂₅H₁₉N₅S
- **Batch Molecular Weight:** 421.52
- **Physical Appearance:** Pale yellow solid
- **Minimum Purity:** ≥98%

**Batch Molecular Structure:**

![Batch Molecular Structure](image)

**Storage:** Store at -20°C  
CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**
- DMSO to 50 mM

CAUTION - Solutions of this product should be made up and used on the same day.

**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.

**References:**