1. PHYSICAL AND CHEMICAL PROPERTIES

- **Batch Molecular Formula:** C_{25}H_{19}N_{5}S
- **Batch Molecular Weight:** 421.52
- **Physical Appearance:** Pale yellow solid
- **Solubility:** DMSO to 50 mM
- **Storage:** Store at -20°C

2. ANALYTICAL DATA

- **HPLC:** Shows 99% purity
- **\(^1\)H NMR:** Consistent with structure
- **Mass Spectrum:** Consistent with structure
- **Microanalysis:**
  - Carbon 71.23 4.54 16.61
  - Hydrogen 71.26 4.47 16.52
  - Nitrogen
Product Information

**Description:**
Potent inhibitor of TGF-β type I receptor ALK5 kinase, type I activin/nodal receptor ALK4 and type I nodal receptor ALK7 (IC\textsubscript{50} 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.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C\textsubscript{26}H\textsubscript{19}N\textsubscript{5}S
- **Batch Molecular Weight:** 421.52
- **Physical Appearance:** Pale yellow solid
- **Minimum Purity:** >98%

**Storage:** Store at -20°C

**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:**