DATASHEET
A 83-01

Product overview

Name
A 83-01
Cat No
HB3218
Description
Selective TGF-βRI (ALK5), ALK4 and ALK7 inhibitor. Maintains human hiPSC self renewal, 3D growth matrix component and promotes long-term organoid growth. Aids fibroblast to NSC/cardiomyocyte reprogramming.

Alternative names
A83
Biological action
Inhibitor
Purity
>98%
Customer comments
: Good quality and very affordable price. My lab are very happy with this product from Hello Bio, we will definitely purchase this product again. Verified customer, UK

Images

Biological Data

Biological description
A 83-01 is a selective TGF-βRI (ALK5), ALK4 and ALK7 inhibitor (IC_{50} values are 12, 45 and 7.5 nM at ALK5, ALK4 and ALK7 respectively). It is more potent than SB431542

Reprogramming
A 83-01 aids reprogramming of fibroblasts into neural stem cells and cardiomyocytes.

Differentiation
A 83-01 blocks phosphorylation of SMAD2/3 to inhibit TGF-β-induced epithelial-to-mesenchymal transition

Maintenance / self-renewal
A 83-01 helps to maintain homogeneity and long-term in vitro self-renewal of iPSCs

Organoids
3D growth matrix component and also promotes long-term organoid growth.

Application notes
Figures 1 - 3 show liver hepatocellular carcinoma tumouroids cultured with A 83-01 and forskolin
**Solubility & Handling**

**Storage instructions**  
-20°C (protect from light)

**Solubility overview**  
Soluble in DMSO (50mM)

**Handling**

- This compound is light sensitive; we therefore recommend protecting the solid material and solutions from exposure to light.
- It has been reported that A 83-01 can decompose to A 77-01 in solution. We therefore recommend that you make up solutions and use immediately. Do not store solutions.
- If storage of solutions is required, you should aliquot out the solution into tightly sealed vials and store at -20°C and store these for up to one month.

**Important**  
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

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**Chemical Data**

**Chemical name**  
3-(6-Methyl-2-pyridinyl)-N-phenyl-4-(4-quinolinyl)-1H-pyrazole-1-carbothioamide

**Molecular Weight**  
421.52

**Chemical structure**

![Chemical structure image]

**Molecular Formula**  
C_{25}H_{19}N_{5}S

**CAS Number**  
909910-43-6

**PubChem identifier**

**SMILES**

CC1=CC=CC(=N1)C2=NN(C=C2C3=CC=NC4=CC=CC=C34)C(=S)NC5=CC=CC=C5

**InChI**

InChI=1S/C25H19N5S/c1-17-8-7-13-23(27-17)24-21(19-14-15-26-22-12-6-5-11-20(19)22)16-30(29-24)25(31)28-18-9-3-2-4-10-18/h2-16H,1H3,(H,28,31)

**InChIKey**

HIJMSZGHKQPPJS-UHFFFAOYSA-N

**Appearance**  
Pale yellow solid

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**References**

The ALK-5 inhibitor A-83-01 inhibits Smad signaling and epithelial-to-mesenchymal transition by transforming growth factor-beta.
**PubMedID**  
16271073

Brief report: combined chemical treatment enables Oct4-induced reprogramming from mouse embryonic fibroblasts.
Yuan et al (2011) 2011 29(3)  
**PubMedID**  
21425417

Generation of rat and human induced pluripotent stem cells by combining genetic reprogramming and chemical inhibitors.
**PubMedID**  
19097958

Chemical compound-based direct reprogramming for future clinical applications.
**PubMedID**  
29739872