

Store at
-20C
#75073

A 83-01

5 mg



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Background

A 83-01 is a potent and selective inhibitor of TGF- β type I receptor ALK5 kinase, activin type IB receptor ALK4, and nodal type I receptor ALK7 with an IC₅₀ value of 12, 45, and 7.5 nM, respectively (1). This small molecule has also been shown to inhibit Smad2/3 phosphorylation along with TGF- β -induced growth inhibition and induction of Twist and Wnt3 (1,2). A 83-01 can be used to stabilize rat induced pluripotent stem cell (riPSC) cultures by inhibiting spontaneous differentiation and increasing the clonal expansion efficiency (3).

Molecular Formula

C₂₅H₁₉N₅S

Molecular Weight

421.5 g/mol

Purity

>98%

CAS

909910-43-6

Solubility

Soluble in DMSO at 20 mg/ml.

Storage

Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 2 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

A 83-01 is supplied as a lyophilized powder. For a 10 mM stock, reconstitute 5 mg of powder in 1.18 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Tojo, M. et al. (2005) *Cancer Sci* 96, 791-800.
2. Wu, Y. et al. (2017) *Breast Cancer Res Treat* 163, 449-60.
3. Li, W. et al. (2009) *Cell Stem Cell* 4, 16-9.

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