

Store at
-20°C
#28992**ITD-1**

5 mg



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Background

ITD-1 is a potent and selective inhibitor of Transforming Growth Factor- β (TGF- β) signaling. This small molecule targets TGF- β receptor II by increasing proteasomal degradation, eliminating the receptor from the cell surface, inhibiting downstream intracellular signaling with an IC_{50} of 0.85 μ M (1). Activation of the TGF- β receptor II leads to phosphorylation of Smad2/3 proteins, transmitting TGF- β signals from the cell surface into the nucleus. ITD-1 inhibits the phosphorylation of Smad2/3 proteins but does not block kinase activity of TGF- β receptors (type I and type II), demonstrating that ITD-1 disrupts TGF- β signaling more selectively than other kinase inhibitors (2).

Molecular Formula

$C_{27}H_{29}NO_3$

Molecular Weight

415.5 g/mol

Purity

>98%

CAS

1099644-42-4

Solubility

Soluble in DMSO at 8 mg/ml or ethanol at 4 mg/ml with slight warming.

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 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

ITD-1 is supplied as a lyophilized powder. For a 10 mM stock, reconstitute 5 mg of powder in 1.2 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

- Schade, D. et al. (2012) *J Med Chem* 55, 9946-57.
- Willems, E. et al. (2012) *Cell Stem Cell* 11, 242-52.

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