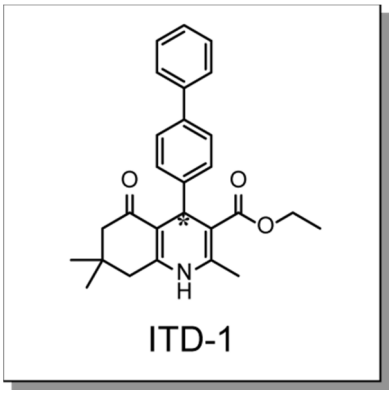
Product Specification Sheet

Product Name: ITD-1

Catalog Number: C4830



Technical information:

Chemical Formula:	$C_{27}H_{29}NO_3$
CAS #:	N/A
Molecular Weight:	415.52
Purity:	>98%
Appearance:	Yellow powder
Solubility:	Soluble in DMSO up to 50 mM
Chemical Name:	ethyl 4-([1,1'-biphenyl]-4-yl)-2,7,7-trimethyl-5-oxo-1,4,5,6,7,8-hexahydroquinoline-3-carboxylate

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Handling:
- To make 10 mM stock solution, add 0.241 mL of DMSO for each 1mg of ITD-1.
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: ITD-1 is a novel selective TGF-β pathway-selective inhibitor that inhibits TGF-β activity by selectively degrading the TGF-β2 receptor at the proteosome level. ITD-1 does not block the closely related Activin A signaling pathway. ITD-1 stimulates embryonic stem cells to differentiate into cardiomyocytes (IC50 0.4-0.8 μM) by degrading the receptor and inhibiting intracellular signaling. ITD-1 has been formulated as a salt to increase stability and improve water solubility (~0.1 mg/mL) for ease of handling. As a salt, ITD-1 is chemically and metabolically stable and is non-cytotoxic. ITD-1 can be used to study a wide range of biological questions in cellular processing and TGF-β signaling.

Reference:

1. Willems E, et al. Small molecule-mediated TGF-β type II receptor degradation promotes cardiomyogenesis in embryonic stem cells. Cell Stem Cell. 2012;11(2):242-52. PMID: 22862949

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