Data Sheet (Cat.No.TP4082)

TargetMol

THR-123

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	THR-123 is an orally active ALK3 peptide agonist. It binds relatively weakly to ALK2 and does not bind to ALK6. THR-123 can inhibit inflammation, apoptosis (cell death), and epithelial-mesenchymal transition, as well as reverse fibrosis already formed in five different acute and chronic kidney injury mouse models. THR-123 is applicable for research on renal fibrosis.
Targets(IC50)	Apoptosis,Integrin,Cadherin
In vitro	THR-123 inhibits the expression of IL-6, IL-8, and ICAM-1 in HK-2 cells induced by TNF-α in a concentration-dependent manner at 0-100 μM for 60 minutes. At 250 μM, THR-123 significantly suppresses HK-2 cell apoptosis induced by TGF-β1, hypoxia, or cisplatin. Additionally, THR-123 at 10 μM restores E-cadherin expression inhibited by TGF-β1, reduces CTGF and Snail1 expression, and reverses the mesenchymal transition of cell morphology.
In vivo	THR-123 to mice in various dosages and durations demonstrates its therapeutic efficacy across multiple renal models. In chronic kidney fibrosis induced by nephrotoxic serum, a dosage of THR-123 (5 mg/kg, orally, once daily for 3 weeks) effectively reverses kidney fibrosis. When administered at the same dosage (5 mg/kg, orally, once daily for 7 days), it significantly reduces tubular necrosis and tissue damage in mice subjected to ischemia-reperfusion injury (IRI). THR-123, administered at 5-15 mg/kg either orally or intraperitoneally once daily for 5-7 days, suppresses interstitial volume expansion and collagen deposition in a unilateral ureteral obstruction (UUO) model. Furthermore, continuous oral administration of THR-123 (5 mg/kg, once daily from 8 to 16 weeks of age) notably inhibits tubular atrophy and interstitial fibrosis observed in COL4A3KO mice without altering glomerular anomalies. In cases of advanced diabetic nephropathy, a 3-month regimen (5 mg/kg, orally, once daily) delays fibrosis progression.