Data Sheet (Cat.No.T206858)

TargetMol

PDE4D inhibitor 1

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: 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	PDE4-IN-1 is a PDE4 inhibitor characterized by high potency (IC50: 8.6 nM) and superior selectivity over other PDE subtypes. This compound inhibits the release of inflammatory cytokines and chemokines. Additionally, PDE4-IN-1 significantly restores the damaged cAMP-CREB signaling pathway, inhibits proliferation, and promotes differentiation to reverse psoriasis formation.
Targets(IC50)	CXCR,Interleukin,PDE,TNF
In vitro	PDE4-IN-1 (Compound L30) at concentrations of 5-20 μM for 2 hours reduces the mRNA levels of pro-inflammatory cytokines (IL-1β, IL-6, and TNF-α) in LPS-induced Raw264.7 cells. Additionally, PDE4-IN-1 at 5-20 μM for 24 hours diminishes the mRNA levels of inflammatory cytokines (CXCL-2, IL-17, and TNF-α) in M5-stimulated HaCaT cells. This compound also inhibits the proliferation of M5-stimulated HaCaT cells at 0-20 μM for 24 hours. At 20 μM for 24 hours, PDE4-IN-1 decreases the protein expression of K6 and K17 while increasing the expression of differentiation-associated proteins K1 and K10 in M5-stimulated HaCaT cells. When combined with Roflumilast at 20 μM for 2 hours, PDE4-IN-1 restores cAMP levels and enhances CREB phosphorylation in M5-stimulated HaCaT cells. PDE4-IN-1 exhibits low cytotoxicity towards RAW264.7 and HaCaT cells at concentrations ranging from 0-80 μM for 24 hours.
In vivo	PDE4-IN-1 (Compound L30), in the form of a 0.3% ointment (100mg), when applied topically for 7 days, alleviates psoriasis symptoms and reduces the severity of skin erythema.