

Cinnamtannin D1

Chemical Properties

CAS No. :	97233-06-2
Formula:	C ₄₅ H ₃₆ O ₁₈
Molecular Weight:	864.77
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	Cinnamtannin D1 is an orally active polyphenolic compound that modulates the Th17/Treg cell balance by inhibiting AHR expression. It reduces apoptosis and ROS in INS-1 cells and primary cultured mouse islets induced by Palmitic acid (PA). Cinnamtannin D1 mitigates Th17 cell differentiation by downregulating p-STAT3/ROR γ t and enhances Treg cell differentiation by upregulating p-STAT5/Foxp3. In a collagen-induced arthritis (CIA) mouse model, it demonstrates excellent anti-arthritis efficacy. Cinnamtannin D1 is applicable for rheumatoid arthritis (RA) research.
Targets(IC50)	Apoptosis,STAT
In vitro	Cinnamtannin D1 at 40 μ M for 72 hours significantly inhibits the differentiation of Th17 cells while promoting Treg cell differentiation under Th17 or Treg polarizing conditions in initial CD4 ⁺ T cells derived from BALB/c mice. It also reduces IL-17A levels and increases IL-10 levels in respective Th17 and Treg cell supernatants. Under stimulation with 6-formylindolo[3,2-b]carbazole (FICZ), Cinnamtannin D1 suppresses Th17 cell differentiation in BALB/c mouse splenocytes. At concentrations of 20-40 μ M over 96 hours, it dose-dependently inhibits Th17 cell differentiation and decreases AHR protein expression. Additionally, Cinnamtannin D1 enhances cell viability in PA-treated INS-1 cells in a dose-dependent manner over 48 hours. At doses of 25-50 μ M for 48 hours, it reduces apoptosis rates, as well as ROS and NO production in PA-induced INS-1 cells and primary cultured mouse islets. Phosphorylation of NF- κ B and c-Jun N-terminal kinase (JNK) is also decreased in INS-1 cells.
In vivo	Cinnamtannin D1 (administered orally at 50 mg/kg daily for 4 weeks) demonstrates significant anti-arthritis effects in the collagen-induced arthritis (CIA) model in DBA/1 mice.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1564 mL	5.7819 mL	11.5638 mL
5 mM	0.2313 mL	1.1564 mL	2.3128 mL
10 mM	0.1156 mL	0.5782 mL	1.1564 mL
50 mM	0.0231 mL	0.1156 mL	0.2313 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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