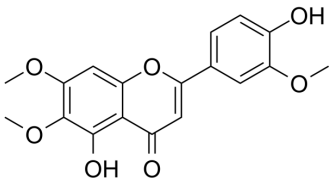
Cirsilineol

Cat. No.:	HY-119347
CAS No.:	41365-32-6
Molecular Formula:	$C_{18}H_{16}O_7$
Molecular Weight:	344.32
Target:	IFNAR; STAT
Pathway:	Immunology/Inflammation; JAK/STAT Signaling; Stem Cell/Wnt
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description

Cirsilineol, a natural flavone compound, selectively inhibits IFN-γ/STAT1/T-bet signaling in intestinal $CD4^+$ T cells. Cirsilineol has potent immunosuppressive and anti-tumor properties. Cirsilineol significantly ameliorates trinitro-benzene sulfonic acid (TNBS)-induced T-cell-mediated experimental colitis in mice[1].

In Vitro

Cirsilineol (0.1-10 μM; 96 hours) inhibits single mixed lymphocyte reaction and Concanava A-induced T-cell proliferation in a dose-dependent manner. Cirsilineol (10 μM) does not affect T lymphocyte's viability. The inhibition of cirsilineol (10 μM) on T-cell proliferation is not due to a cytotoxic activity[1].

Cirsilineol (1-10 μM; pretreatment for 3 hours) completely inhibits IFN-γ-induced Tyr701 phosphorylation of STAT1 and JAK2 activation[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Splenocytes
Concentration:	0.1, 1, 10 μM
Incubation Time:	96 hours
Result:	Inhibited single mixed lymphocyte reaction and Concanavalin A (Con A; 5 μg/mL; for 72 h)-induced T-cell proliferation in a dose-dependent manner. Suppressed $OVA_{323-339}$-specific $CD4^+$ T-cell proliferation.

Western Blot Analysis[1]

Cell Line:	Splenic $CD4^+$ T cells
Concentration:	1, 5, 10 μM
Incubation Time:	Pretreatment for 3 hours
Result:	Completely inhibited IFN-γ-induced (25 ng; 30 mins) Tyr701 phosphorylation of STAT1 and JAK2 activation. Suppressed IFN-γ-induced (25 ng; 12 hours) Th1-specific transcription factor T-bet.

In Vivo

cirsilineol (3, 10, and 30 mg/kg) significantly ameliorates TNBS-induced Th1-mediated colitis through inhibiting IFN-γ/

STAT1/T-bet signaling in $CD4^+$ T cells.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	8-10-week-old female C57BL/6, BALB/c and DO11.10 transgenic mice with TNBS (10 mg; 100 μL)[1]
Dosage:	3, 10, 30 mg/kg
Administration:	IP; daily; for 11 days
Result:	Showed a significant improved effect on the body weights and survival rate of mice. Markedly reduced inflammatory infiltration, restoration of the destructive mucosal architecture and remission of edema.

REFERENCES

[1]. Yang Sun, et al. Novel immunomodulatory properties of cirsilineol through selective inhibition of IFN-gamma signaling in a murine model of inflammatory bowel disease. Biochem Pharmacol. 2010 Jan 15;79(2):229-38.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA