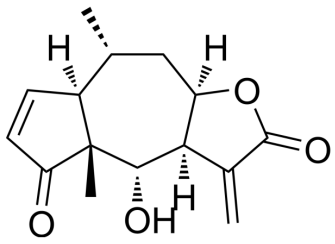
Helenalin

Cat. No.:	HY-119970		
CAS No.:	6754-13-8		
Molecular Formula:	$C_{15}H_{18}O_4$		
Molecular Weight:	262.3		
Target:	NF-κB		
Pathway:	NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (381.24 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8124 mL	19.0621 mL	38.1243 mL
	5 mM	0.7625 mL	3.8124 mL	7.6249 mL
	10 mM	0.3812 mL	1.9062 mL	3.8124 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Helenalin is an anti-inflammatory sesquiterpene lactone. Helenalin selectively inhibits transcription factor NF-κB by directly targeting p65. Helenalin has alkylating activity, targets the cysteine sulfhydryl groups in the p65 subunit of NF-κB, thereby inhibits its DNA binding[1][2].

In Vitro

Helenalin (10 μM; 20-120 minutes) causes complete inhibition of NF-κB DNA binding after 80 minutes[1].
?The anti-inflammatory, anti-carcinogenic phytochemical, Helenalin is a potent inhibitor of periodic Skp2 accumulation, an F-box protein mediating SCF E3 ligase ubiquitylation and degradation of both CKIs during S phase progression[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Jurkat T cells
Concentration:	10 μM
Incubation Time:	20-120 minutes

Result:	Caused complete inhibition of NF-κB DNA binding after 80 minutes.

In Vivo

Helenalin (25 mg/kg; i.p.; 6 to 12 hours) administers to immature male ICR mice caused a rapid decrease in hepatic glutathione levels[2].

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

Animal Model:	Immature male ICR mice[2]
Dosage:	25 mg/kg
Administration:	i.p.; 6 to 12 hours
Result:	Caused a rapid decrease in hepatic glutathione levels.

CUSTOMER VALIDATION

- J Autoimmun. 2022 May;129:102828.
- Front Immunol. 2022 Feb 4;13:835986.
- Can J Physiol Pharmacol. 2021 Nov 18;1-7.
- Exp Ther Med. August 26, 2021.

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REFERENCES

[1]. Merrill JC, et al. Role of glutathione in the toxicity of the sesquiterpene lactones hymenoxon and helenalin. J Toxicol Environ Health. 1988;23(2):159-69.

[2]. Lyss G, et al. The anti-inflammatory sesquiterpene lactone helenalin inhibits the transcription factor NF-kappaB by directly targeting p65. J Biol Chem. 1998 Dec 11;273(50):33508-16.

[3]. Fernandes KM, et al. Helenalin-mediated post-transcriptional regulation of p21(Cip1) inhibits 3T3-L1 preadipocyteproliferation. J Cell Biochem. 2008 Oct 15;105(3):913-21.

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