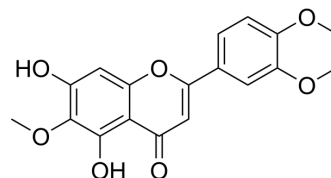


Eupatilin

Cat. No.:	HY-N0783												
CAS No.:	22368-21-4												
Molecular Formula:	C ₁₈ H ₁₆ O ₇												
Molecular Weight:	344.32												
Target:	PPAR; Autophagy												
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor; Autophagy												
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	2 years											
	-20°C	1 year											



SOLVENT & SOLUBILITY

In Vitro	DMSO : 33.33 mg/mL (96.80 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.9043 mL	14.5214 mL	29.0428 mL
		5 mM	0.5809 mL	2.9043 mL	5.8085 mL
		10 mM	0.2904 mL	1.4521 mL	2.9043 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (7.26 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.26 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.26 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Eupatilin, a lipophilic flavonoid isolated from <i>Artemisia argyi</i> , is a PPARα agonist, and possesses anti-apoptotic, anti-oxidative and anti-inflammatory activities.
IC₅₀ & Target	PPARα
In Vitro	Eupatilin is a PPARα agonist. Eupatilin (10, 30, 100 μM) suppresses IL-4 expression and degranulation in RBL-2H3 cells ^[1] .

Eupatilin (50-100 μM) slightly reduces cell viability of HaCaT cells. Eupatilin (10, 30, 50, 100 μM) increases PPAR α transactivation and expression in HaCaT cells. Eupatilin (10, 30, 50 μM) also suppresses TNF α -induced MMP-2/-9 expression in HaCaT cells. Furthermore, Eupatilin inhibits TNF α -induced p65 translocation, I κ B α Phosphorylation, AP-1 and MAPK signaling via PPAR α ^[2]. Eupatilin (10-50 μM) shows no cytotoxic effects on ARPE19 cells. Eupatilin (10, 25, 50 μM) elevates cell viability from oxidative stress, and inhibits H₂O₂-induced ROS production in ARPE19 cells. Moreover, Eupatilin (50 μM) inhibits H₂O₂-induced cells apoptosis and promotes the activation of PI3K/Akt pathway in RPE cells^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Eupatilin (1.5% or 3.0%) restores PPAR α mRNA expression, and improves atopic dermatitis (AD)-like symptoms in oxazolone-induced Balb/c mice. Eupatilin causes significant decrease in serum IgE, IL-4 levels, oxazolone-induced TNF α , IFN γ , IL-1 β , TSLP, IL-33 and IL-25 mRNA expression in oxazolone-induced mice. Eupatilin also increases filaggrin and loricrin mRNA expression in oxazolone-induced mice^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[3]

Cell viability is detected using a MTT assay. In brief, after treatment, the medium is replaced with fresh medium containing 0.5 mg/mL MTT for 4 h at 37°C. Then, the medium is gently aspirated and 150 μL of DMSO is added to each well to solubilize the formazan crystals. The absorbance is measured at 450 nm by a microplate reader. The relative cell viability is defined as the absorbance of treated wells divided by that of the control^[3].

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Animal Administration ^[1]

Six-week-old female Balb/c mice are housed under conditions of controlled temperature ($23 \pm 2^\circ\text{C}$), humidity ($55 \pm 5\%$), and 12 h light/dark cycles (06:00-18:00 h light, 18:00-06:00 dark). Briefly, Balb/c mice are sensitized on day -7 by a single application of 20 μL of 1.0% oxazolone in a mixture of acetone and olive oil (4:1) to the inner and outer surface of both ears. On day 0, the mouse ears are challenged with 20 μL of 0.1% oxazolone at 2-day intervals for 4 weeks post-sensitization. The mice are treated with the indicated concentrations of Eupatilin (1.5% or 3.0%) twice a day for 4 weeks. The control group is treated with vehicle alone (acetone and olive oil [4:1]). After 3 weeks, the mice are sacrificed and samples are collected. Ears are stored at -80°C for RNA isolation and analysis or immediately fixed in 4% formalin for histological analysis^[1].

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

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.
- Life Sci. 2020 Jul 15;253:117745.
- Int J Mol Med. 2021 Feb;47(2):511-522.
- J Inflamm Res. 2023 Mar 10.
- Animals (Basel). 2024 Jan 30;14(3):449.

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REFERENCES

[1]. Jung Y, et al. Eupatilin, an activator of PPAR α , inhibits the development of oxazolone-induced atopic dermatitis symptoms in Balb/c mice. *Biochem Biophys Res Commun.* 2018 Feb 5;496(2):508-514.

[2]. Jung Y, et al. Eupatilin with PPAR α agonistic effects inhibits TNF α -induced MMP signaling in HaCaT cells. *Biochem Biophys Res Commun.* 2017 Nov 4;493(1):220-226.

Caution: Product has not been fully validated for medical applications. For research use only.

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