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Coelonin

Cat. No.: HY-N8884

CAS No.: 82344-82-9

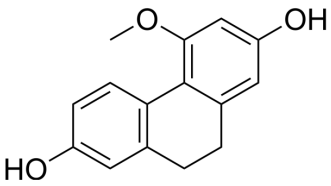
Molecular Formula: $C_{15}H_{14}O_3$

Molecular Weight: 242.27

Target: PTEN; Akt; NF-κB; Interleukin Related; TNF Receptor

Pathway: PI3K/Akt/mTOR; NF-κB; Immunology/Inflammation; Apoptosis

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Coelonin is a dihydrophenanthrene with anti-inflammation activity. Coelonin inhibits LPS-induced PTEN phosphorylation. Coelonin inhibits NF-κB activation and p27Kip1 degradation by regulating the PI3K/AKT pathway negatively. Coelonin can inhibit IκBα phosphorylation and degradation and increases the expression of IκBα protein[1][2].

IC_{50} & Target				
	Akt	NF-κB	IL-1β	IL-6

In Vitro

Coelonin (2.5 μg/mL) significantly reduces both NF-κB p65 and p105/50 phosphorylation levels[1].

Coelonin (0-5 μg/mL, 1.5 h) dose dependently reduces the increase of the phosphorylation of PTEN, AKT and IκBa induced by LPS[1].

Coelonin (10 and 20 μg/ml) mitigates particulate matter 2.5 (PM2.5)-induced inflammation by reducing the generation of inflammatory factors, including interleukin-6 (IL-6) and tumor necrosis factor-α (TNF-α)[2].

The inhibition of IL-1β, IL-6 and TNF-α expression by Coelonin is independent of PTEN, whereas the inhibition of $p27^{Kip1}$ degradation results in cell-cycle arrest in the G1 phase, which is dependent on PTEN[1].

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

Western Blot Analysis[1]

Cell Line:	RAW264.7 cells
Concentration:	0, 1, 2.5, and 5 μg/mL
Incubation Time:	1.5 h
Result:	Dose dependently reduced the increase of p65 accumulation in the nucleus induced by LPS. Dose dependently reversed LPS-induced iNOS and COX2 expression. LPS (200 ng/mL) significantly increased the phosphorylation of PTEN, AKT and inhibitor of NF-κB (IκBa), which was dose-dependently reduced by coelonin pre-treatment.

REFERENCES

[1]. Jiang F, et al. Coelonin, an Anti-Inflammation Active Component of Bletilla striata and Its Potential Mechanism. Int J Mol Sci. 2019 Sep 8;20(18):4422.

[2]. Cheng W, et al. Inhibition of inflammation-induced injury and cell migration by coelonin and militarine in PM2.5-exposed human lung alveolar epithelial A549 cells. Eur

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