# 4′-Hydroxywogonin

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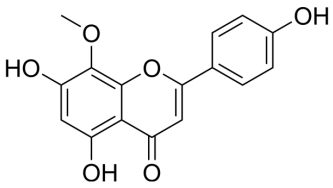
| **Cat. No.:** | HY-N1904 |
| **CAS No.:** | 57096-02-3 |
| **Molecular Formula:** | $C_{16}H_{12}O_6$ |
| **Molecular Weight:** | 300.26 |
| **Target:** | IKK; NF-κB; p38 MAPK; PI3K; Akt; Reactive Oxygen Species; Interleukin Related; TNF Receptor; Apoptosis; Caspase; Bcl-2 Family |
| **Pathway:** | NF-κB; MAPK/ERK Pathway; PI3K/Akt/mTOR; Immunology/Inflammation; Metabolic Enzyme/Protease; Apoptosis |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

**Description**

4′-Hydroxywogonin (8-Methoxyapigenin), a flavonoid, could be isolated from a variety of plants including Scutellaria barbata and Verbena littoralis. 4′-Hydroxywogonin has anti-inflammatory activity via TAK1/IKK/NF-κB, MAPKs and PI3/AKT signaling pathways. 4′-Hydroxywogonin inhibits angiogenesis by disrupting PI3K/AKT signaling. 4′-Hydroxywogonin inhibits cell proliferation and induces apoptosis[1][2][3].

**In Vitro**

4′-Hydroxywogonin (8-Methoxyapigenin; 0.5-15 μM; 0-24 h) has low cytotoxicity and inhibits NO and $PGE_2$ production in LPS-stimulated RAW 264.7 macrophages by suppression of iNOS and COX-2 expression[1].

4′-Hydroxywogonin (0.5-15 μM; 1 and 12 h) suppresses LPS-induced expression of pro-inflammatory cytokines in RAW 264.7 macrophages and suppresses LPS-induced activation of NF-κB[1].

4′-Hydroxywogonin (0.5-15 μM; 1 h) suppresses LPS-induced degradation of IκB-α and activation of IKK and TAK and suppresses the phosphorylation of MAPK and AKTin in RAW 264.7 macrophages[1].

4′-Hydroxywogonin (0.5-15 μM; 24 h) inhibits ROS production in LPS-stimulated RAW 264.7 macrophages[1].

4′-Hydroxywogonin (0-10 μg/mL; 24 h) reduces the viability of SW620 cells in a concentration- and time-dependent manner and decreases the mRNA and protein expression of vascular endothelial growth factor-A (VEGF-A), the predominant pro-angiogenic cytokine in tumor angiogenesis[2].

4′-Hydroxywogonin (24 h; SUP-B15 and Jurkat cells) induces apoptosis and decreases the expression of C-MYC, BCL-2 and cleaved caspase 3[3].

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

Cell Viability Assay[1]

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| Cell Line: | RAW 264.7 macrophages |
| Concentration: | 0.5, 5 and 15 μM |
| Incubation Time: | 24 hours |
| Result: | Had low cytotoxicity in RAW 264.7 macrophages. |

Western Blot Analysis[1]

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|---|---|
| Cell Line: | RAW 264.7 macrophages |

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|---|---|
| Concentration: | 0.5, 5 and 15 μM |
| Incubation Time: | 1 hours |
| Result: | Attenuated the increase of iNOS and COX-2 mRNA expression induced by LPS in RAW 264.7 cells. |

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | RAW 264.7 macrophages |
| Concentration: | 0.5, 5 and 15 μM |
| Incubation Time: | 1 and 12 hours |
| Result: | Reduced TNF-α, IL-6 and IL-1β mRNA expression in a dose-dependent manner.<br>Inhibited LPS-induced p65 phosphorylation and nuclear translocation. |

Western Blot Analysis[1]

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|---|---|
| Cell Line: | RAW 264.7 macrophages |
| Concentration: | 0.5, 5 and 15 μM |
| Incubation Time: | 1 hours |
| Result: | Attenuated LPS induced IκB-α degradation.<br>Attenuated the phosphorylation of ERK1/2 and p38 in a dose-dependent manner.<br>Reduced the intensity of the TAK1/TAB1 band. |

Western Blot Analysis[2]

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| Cell Line: | SW620 cells |
| Concentration: | 0.1, 1, and 10 μg/mL |
| Incubation Time: | 24 hours |
| Result: | Downregulated VEGF-Aexpression in colorectal cancer cells and suppressed angiogenesis. |

**In Vivo**

4′-Hydroxywogonin (10 and 20 mg/kg; i.p.; male C57BL/6 mice) alleviates LPS-induced acute lung injury (ALI) in a mouse model[1].

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

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| Animal Model: | Male C57BL/6 mice (6-8 weeks old; 20 g) with acute lung injury model[1] |
| Dosage: | 10 and 20 mg/kg |
| Administration: | Intraperitoneal injection, 12 and 1 h before LPS treatment |
| Result: | Had potential protective effects against inflammation in LPS induced ALI mice.<br>Attenuated the degree of leukocyte infiltration. |

## REFERENCES

[1]. Fan C, et, al. 4'-Hydroxywogonin suppresses lipopolysaccharide-induced inflammatory responses in RAW 264.7 macrophages and acute lung injury mice. PLoS One. 2017 Aug 8;12(8):e0181191.



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