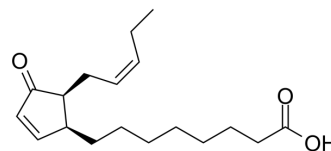


## 12-Oxo phytodienoic acid

Cat. No.:	HY-118828
CAS No.:	85551-10-6
Molecular Formula:	C <sub>18</sub> H <sub>28</sub> O <sub>3</sub>
Molecular Weight:	292.41
Target:	NF-κB; p38 MAPK
Pathway:	NF-κB; MAPK/ERK Pathway
Storage:	Solution, -20°C, 2 years



### BIOLOGICAL ACTIVITY

<b>Description</b>	12-Oxo phytodienoic acid (12-OPDA) is a plant lipid-derived anti-inflammatory compound. 12-Oxo phytodienoic acid suppresses neuroinflammation by inhibiting NF-κB and p38 MAPK signaling in LPS-activated cells. 12-Oxo phytodienoic acid can be used for neurodegenerative diseases research <sup>[1]</sup> .																
<b>In Vitro</b>	<p>12-Oxo phytodienoic acid (12-OPDA) (7.5, 15, 30 μM, 6, 24 h) protects MG5 cells against inflammation induced by LPS<sup>[1]</sup>. 12-Oxo phytodienoic acid (12-OPDA) (7.5, 15, 30 μM, 6, 24 h) suppresses LPS-induced activation of NF-κB and p38 MAPK and induces SOCS-1 transcription in MG5 cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Real Time qPCR<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>MG5 cells</td> </tr> <tr> <td>Concentration:</td> <td>7.5, 15, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>6, 24 h</td> </tr> <tr> <td>Result:</td> <td>Reduced LPS-induced mRNA expression of IL-6, TNF-α, and iNOS in a concentration-dependent manner.</td> </tr> </table> <p>Western Blot Analysis<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>MG5 cells</td> </tr> <tr> <td>Concentration:</td> <td>7.5, 15, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>6, 24 h</td> </tr> <tr> <td>Result:</td> <td>Decreased the protein levels of IL-6 and TNF-α and NO level. Reduced LPS-induced phosphorylation of p38, but had no effect on phosphorylation of JNK. Elevated expression of HO-1 protein.</td> </tr> </table>	Cell Line:	MG5 cells	Concentration:	7.5, 15, 30 μM	Incubation Time:	6, 24 h	Result:	Reduced LPS-induced mRNA expression of IL-6, TNF-α, and iNOS in a concentration-dependent manner.	Cell Line:	MG5 cells	Concentration:	7.5, 15, 30 μM	Incubation Time:	6, 24 h	Result:	Decreased the protein levels of IL-6 and TNF-α and NO level. Reduced LPS-induced phosphorylation of p38, but had no effect on phosphorylation of JNK. Elevated expression of HO-1 protein.
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### CUSTOMER VALIDATION

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- Molecules. 2023 Apr 11, 28(8), 3375.

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## REFERENCES

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[1]. Taki-Nakano N, et al. 12-oxo-phytodienoic acid, a plant-derived oxylipin, attenuates lipopolysaccharide-induced inflammation in microglia. Biochem Biophys Res Commun. 2016 May 13;473(4):1288-1294.

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

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