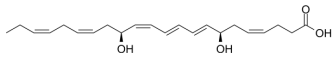
Maresin 1

Cat. No.:	HY-116429
CAS No.:	1268720-28-0
Molecular Formula:	$C_{22}H_{32}O_4$
Molecular Weight:	360.49
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Solution, -20°C, 2 years



BIOLOGICAL ACTIVITY

Description

Maresin 1, produced by human Mφs from endogenous docosahexaenoic acid (DHA) and a specialized proresolving mediator, stimulates intracellular [Ca^{2+}] and secretion. Maresin 1 possesses anti-inflammatory activity[1][2][3].

In Vitro

Maresin 1 (MaR1, 300 nM) reduces neutrophil migration and reactive oxygen species production, besides decreasing IL-1b, TNF-a, IL-6, and INF-g production[3].

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

Cell Viability Assay[3]

Cell Line:	Neutrophils (2 ⊠10^5 cells/well).
Concentration:	300 nM.
Incubation Time:	30 min.
Result:	Adherent cells are stimulated for 24 h with LPS (1 mg/ml) in the presence or absence of MaR1 (300 nM) in a final volume of 250 ml/well[3].

In Vivo

Maresin 1 (MaR1) dose-dependently inhibits TRPV1 currents in neurons, blocks capsaicin (100 nM)-induced inward currents (IC_{50}=0.49 nM), and reduces both inflammation- and chemotherapy-induced neuropathic pain in mice[2].

Maresin 1 (MaR1, 0.1, 0.3, and 1 μg/animal, e.v.) protects mice against acute DSS-induced colitis. Maresin 1 (0.3, and 1 μg/animal, e.v.) treatment markedly reduces macroscopic damage in the acute protocol of DSS-induced colitis[3].

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Animal Model:	Male CD1 mice (8-10 wk of age) (colitis was induced by DSS)[3].
Dosage:	0.1, 0.3, and 1 μg/animal.
Administration:	Intraocular route once a day from day 0 to day 7.
Result:	MaR1 (0.3 and 1 mg/animal) significantly reduces MPO levels in mouse colon tissue.

CUSTOMER VALIDATION

- J Inflamm. 2021 Feb 8;18(1):8.

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REFERENCES

[1]. Markus V Olsen, et al. Maresin 1, a Specialized Proresolving Mediator, Stimulates Intracellular [Ca 2+] and Secretion in Conjunctival Goblet Cells. J Cell Physiol. 2020 Jun 8.

[2]. Macrophage Proresolving Mediator Maresin 1 Stimulates Tissue Regeneration and Controls Pain

[3]. Rodrigo Marcon, et al. Maresin 1, a Proresolving Lipid Mediator Derived From omega-3 Polyunsaturated Fatty Acids, Exerts Protective Actions in Murine Models of Colitis. J Immunol. 2013 Oct 15;191(8):4288-98.

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