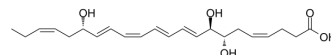


Resolvin D1

Cat. No.:	HY-125527
CAS No.:	872993-05-0
Molecular Formula:	C ₂₂ H ₃₂ O ₅
Molecular Weight:	376.49
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Solution, -20°C, 2 years



BIOLOGICAL ACTIVITY

Description	Resolvin D1 (RvD1), an endogenous pro-resolving mediator of inflammation, is derived from omega-3 docosahexaenoic acid during the resolution phase of acute inflammation. Resolvin D1 blocks proinflammatory neutrophil migration by regulating actin polymerization, reduces TNF- α -mediated inflammation in macrophages, and enhances phagocytosis of apoptotic cells by macrophages ^{[1][2]} .	
IC₅₀ & Target	Human Endogenous Metabolite	
In Vitro	Resolvin D1 (RvD1) (1-100 nM; 15 minutes) induces dose-dependent short-term functional changes in primary human macrophages. RvD1 triggers intracellular Ca ²⁺ release, blocks chemotactic migration, and stimulates phagocytosis of microbial particles with maximal efficiency at 10 nM ^[1] . Resolvin D1 (0-500 nM; 72 hours) shows a strong inhibition of LPS-induced TRAP and cathepsin K expression by RvD1 at different concentrations in RAW264.7 macrophages ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Resolvin D1 (RvD1) (100-1000 ng; i.p.; daily on days 10) improves RA (rheumatoid arthritis) clinical endpoints in arthritic mice ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	18-20 g thirty 8-week-old female DBA/1J mice (collagen antibody-induced arthritis (CAIA)) ^[3]
	Dosage:	100, 500, and 1000 ng (or 1000 ng, daily on days 4-10)
	Administration:	i.p. injection; daily on days 10
	Result:	Exhibit a reduced arthritic score.

REFERENCES

[1]. Schmid M, et al. Resolvin D1 Polarizes Primary Human Macrophages toward a Proresolution Phenotype through GPR32. J Immunol. 2016 Apr 15;196(8):3429-37.

[2]. Gao Y, et al. Resolvin D1 Improves the Resolution of Inflammation via Activating NF- κ B p50/p50-Mediated Cyclooxygenase-2 Expression in Acute Respiratory Distress Syndrome. J Immunol. 2017 Aug 9. pii: j11700315.

[3]. Benabdoun HA, et al. In vitro and in vivo assessment of the proresolutive and antiresorptive actions of resolvin D1: relevance to arthritis. *Arthritis Res Ther.* 2019 Mar 12;21(1):72.

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

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