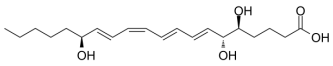
Lipoxin A4

Cat. No.:	HY-113509
CAS No.:	89663-86-5
Molecular Formula:	$C_{20}H_{32}O_5$
Molecular Weight:	352.47
Target:	Interleukin Related; Endogenous Metabolite
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease
Storage:	Solution, -20°C, 2 years



BIOLOGICAL ACTIVITY

Description	Lipoxin A4 (LXA4), an endogenous lipoxygenase-derived eicosanoid mediator, has potent dual pro-resolving and anti-inflammatory properties[1]. Lipoxin A4 inhibits proliferation and inflammatory cytokine/chemokine production of human epidermal keratinocytes (NHEKs) associated with the ERK1/2 and NF-kB pathways[2]. Lipoxin A4 inhibits serum amyloid A (SAA)-mediated IL-8 release with an IC_{50} value of 25.74 nM[3].
IC_{50} & Target	Human Endogenous Metabolite

In Vitro

Lipoxin A4 (LXA4) inhibits the expression of IL-6 and IL-8 in NHEKs[2].
Lipoxin A4 downregulates the expression of cyclin D1[2].
Lipoxin A4 also suppresses the ERK1/2 phosphorylation and NF-kB-p65 nuclear translocation of NHEKs[2].
LXA4 (100 nM; preincubation for 30 minutes)inhibits the proliferation of NHEKs with or without stimulating by LPS (10 μg/mL)[2].
LXA4 pretreatment (100 nM for 30 minutes) downregulates the LPS-induced secretion and expression of HMGB1 in keratinocytes[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[2]

Cell Line:	Normal human epidermal keratinocytes (NHEKs)
Concentration:	100 nM
Incubation Time:	30 minutes
Result:	A significant increase in proliferation of NHEKs after 7 days of stimulation with LPS (10 μg/mL) was seen. However, there was a significant decrease in the proliferation of NHEKs when pretreated with LXA4 for 30 min.

Western Blot Analysis[1]

Cell Line:	Normal human epidermal keratinocytes (NHEKs)
Concentration:	100 nM
Incubation Time:	30 minutes.

Result:	HMGB1 protein levels in the cytoplasm of NHEKs were induced by LPS, which were decreased after preincubation with LXA4 but decreased in the nucleus after stimulation with LPS.

CUSTOMER VALIDATION

- Drug Alcohol Depend. 1 August 2022, 109537.

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REFERENCES

[1]. Feng Hu, et al. Lipoxin A4 inhibits proliferation and inflammatory cytokine/chemokine production of human epidermal keratinocytes associated with the ERK1/2 and NF-κB pathways. J Dermatol Sci. 2015 Jun;78(3):181-8.

[2]. Steven Bozinovski, et al. Serum amyloid A opposes lipoxin A_4 to mediate glucocorticoid refractory lung inflammation in chronic obstructive pulmonary disease. Proc Natl Acad Sci U S A. 2012 Jan 17;109(3):935-40.

[3]. Xinxin Liu, et al. Lipoxin A4 and its analog suppress inflammation by modulating HMGB1 translocation and expression in psoriasis.Sci Rep. 2017 Aug 2;7(1):7100.

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