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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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iNOS/COX-2-IN-1

Cat. No.: HY-161513

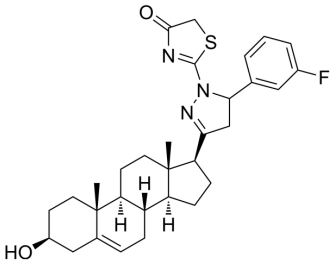
Molecular Formula: $C_{31}H_{38}FN_3O_2S$

Molecular Weight: 535.72

Target: COX; NO Synthase

Pathway: Immunology/Inflammation

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

iNOS/COX-2-IN-1 (Compound 12e) is an inhibitor of cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS). iNOS/COX-2-IN-1 inhibits the NF-κB and MAPKs signaling pathways and thus exerts anti-inflammatory effects[1].

IC_{50} & Target	COX-2	iNOS

In Vitro

iNOS/COX-2-IN-1 (0.625-40 μM; 24 h) has no significant cytotoxicity against RAW 264.7 cells at a concentration of 5 μM[1].
iNOS/COX-2-IN-1 (2.5-10 μM; 1 h) significantly inhibits LPS-induced NO production, with a NO inhibition rate of 45.38% (5 μM). Concentration-dependently inhibits the expression of TNF-α and COX-2. Effectively inhibits mRNA expression of pro-inflammatory cytokines. Exerts its anti-inflammatory effect by inhibiting the activation of NF-κB signaling pathway [1].

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

Cell Cytotoxicity Assay[1]

Cell Line:	RAW 264.7cells
Concentration:	0.625, 1.25, 2.5, 5, 10, 20, 40 μM
Incubation Time:	24 h
Result:	The survival rate of RAW 264.7 cells was 97.44% at a concentration of 5 μM, indicating low cytotoxicity.

Western Blot Analysis[1]

Cell Line:	RAW 264.7cells
Concentration:	2.5, 5, 10 μM
Incubation Time:	1 h
Result:	Dose-dependent inhibited the expression of iNOS and COX-2 proteins. Significantly inhibited LPS-induced phosphorylation of NF-κB p65 and degradation of IκB α, and reduced translocation of NF-κB p65 from the cytoplasm to the nucleus. Significantly inhibited LPS-induced phosphorylation of ERK, JNK and p38 MAPK.

Real Time qPCR[1]

Cell Line:	RAW 264.7cells
Concentration:	2.5, 5, 10 μM
Incubation Time:	24 h
Result:	Significantly reduced mRNA expression levels of TNF-α, iNOS, IL-6 and COX-2.

REFERENCES

[1]. Cai X, et al. Design, synthesis and molecular modeling of novel D-ring substituted steroidal 4,5-dihydropyrazole thiazolinone derivatives as anti-inflammatory agents by inhibition of COX-2/iNOS production and down-regulation of NF-κB/MAPKs in LPS-induced RAW264.7 macrophage cells. Eur J Med Chem. 2024 Apr 27;272:116460.

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