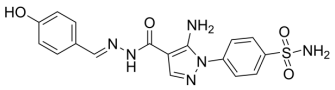
COX-2-IN-31

Cat. No.:	HY-149270
Molecular Formula:	$C_{17}H_{16}N_6O_4S$
Molecular Weight:	400.41
Target:	COX
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	COX-2-IN-31 (compound 7b) is an orally active and dual inhibitor of COX-2 (IC_{50}=60 nM) and 5-LOX (IC_{50}=1.9 μM). COX-2-IN-31 also inhibits transmembrane hCA IX(K_i=48.9 nM) and hCA XII(K_i=5.8 nM) activity. COX-2-IN-31 exhibits anti-inflammatory and analgesic activity[1].

IC_{50} & Target	COX-1	COX-2
	12.5 μM (IC_{50})	60 nM (IC_{50})

In Vitro	COX-2-IN-31 (compound 7b) potently inhibits hCA IX and XII with Ki values in the nanomolar range(48.9 nM and 5.8 nM) in the Carbonic anhydrase inhibition assay[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

COX-2-IN-31 (compound 7b) (10 mg/kg; oral gavage; single dose) exhibits analgesic activity, meanwhile it results a significant reduction in the number of writhing in Acetic acid writhing test[1].

COX-2-IN-31 (10 mg/kg; oral gavage; single dose) results a significant reduction of paw height in Carrageenan (HY-125474)-induced rat paw edema assay[1].

COX-2-IN-31 (10 mg/kg; p.o; single dose) shows safety profile on the gastric tissues in male albino rats[1].

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

Animal Model:	Acetic acid writhing test in mice[1]
Dosage:	10 mg/kg
Administration:	Oral gavage; single dose; 1 h.
Result:	Decreased the number of writhing responses of mouse conpared with control group.

Animal Model:	Carrageenan (HY-125474)-induced rat paw edema[1]
Dosage:	10 mg/kg
Administration:	Oral gavage:; single dose; 1-3h
Result:	Decreased the edema volume of mouse conpared with control group.

REFERENCES

[1]. Ragab MA, et al. 4-(5-Amino-pyrazol-1-yl) benzene sulfonamide derivatives as novel multi-target anti-inflammatory agents endowed with inhibitory activity against COX-2, 5-LOX and carbonic anhydrase: Design, synthesis, and biological assessments. Eur J Med Chem. 2023 Mar 15; 250:115180.

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