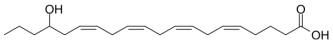
17-HETE

Cat. No.:	HY-116196
CAS No.:	128914-47-6
Molecular Formula:	$C_{20}H_{32}O_3$
Molecular Weight:	320.47
Target:	Na+/K+ ATPase; Cytochrome P450
Pathway:	Membrane Transporter/Ion Channel; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

17-HETE is arachidonic acid metabolite through cytochrome P-450 pathways, which consists of 17R-HETE and 17S-HETE enantiomers. 17-HETE serves as allosteric activator of the cytochrome P450 1B1 and inhibitor of ATPase, induces cardic hypertrophy[1][2].

IC_{50} & Target

CYP1B1

In Vitro

17-HETE (5-20 μM) promotes the development of cardiac hypertrophy in human, through increasing CY1B1 at activity and protein levels[1].

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

Real Time qPCR[1]

Cell Line:	AC16
Concentration:	5-20 μM
Incubation Time:	24 h
Result:	Increased mRNA levels of β-MHC and ANP, increased cell surface area.

Western Blot Analysis[1]

Cell Line:	AC16
Concentration:	20 μM
Incubation Time:	24 h
Result:	Increased expression of CYP 1B1.

In Vivo

17-HETE (1-20 μg, i.a.) stereospecificially inhibits proximal tubule ATPase activity with S- enantiomer in New Zealand white rabbit[2].

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

Animal Model:	New Zealand White rabbit[2]
Dosage:	1-20 μg
Administration:	injection into artery
Result:	17S inhibited more than 70% ATPase activity at the concentration of 2 μM, while 17R enantiomer remained inactive.

REFERENCES

[1]. Isse FA, et al., 17-(R/S)-hydroxyeicosatetraenoic acid (HETE) induces cardiac hypertrophy through the CYP1B1 in enantioselective manners. Prostaglandins Other Lipid Mediat. 2023 Oct;168:106749.

[2]. Carroll MA, e al., Cytochrome P-450-dependent HETEs: profile of biological activity and stimulation by vasoactive peptides. Am J Physiol. 1996 Oct;271(4 Pt 2):R863-9.

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