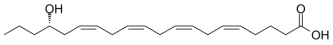
17(S)-HETE

Cat. No.:	HY-116050
CAS No.:	183509-25-3
Molecular Formula:	$C_{20}H_{32}O_3$
Molecular Weight:	320.47
Target:	Cytochrome P450; Na+/K+ ATPase
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

17S-HETE is arachidonic acid metabolite through cytochrome P-450 pathways. 17S-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

17S-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 β/α-MHC ratio, mRNA levels of β-MHC, ANP and CYP1B1, cell surface area by 124%, 250%, 120%, 210% and 117%, respectively.

Western Blot Analysis[1]

Cell Line:	AC16
Concentration:	20 μM
Incubation Time:	24 h
Result:	Increased levels of CYP1B1.

In Vivo

17S-HETE (1-20 μg, i.a.) inhibits proximal tubule ATPase activity 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:	Inhibited more than 70% ATPase activity at the concentration of 2 μM.

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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