

# 20-HETE

Catalog No: tcsc1451



## Available Sizes

**Size:** 2mg

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

79551-86-3

**Formula:**

$C_{20}H_{32}O_3$

**Pathway:**

Membrane Transporter/Ion Channel

**Target:**

Potassium Channel

**Purity / Grade:**

>98%

**Solubility:**

DMSO:  $\geq 3.2$  mg/mL

**Alternative Names:**

20-hydroxy Arachidonic Acid

**Observed Molecular Weight:**

320.47

**Product Description**

20-HETE(20-hydroxy Arachidonic Acid) is a potent vasoconstrictor produced in vascular smooth muscle (VSM) cells. It depolarizes VSM by blocking the open-state probability of Ca<sup>2+</sup>-activated K<sup>+</sup>-channels.

IC<sub>50</sub> Value:

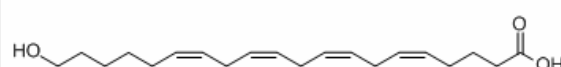
Target:

20-Hydroxyeicosatetraenoic acid (20-HETE) is a cytochrome P450-derived arachidonic acid metabolite that has been shown to increase smooth muscle contractions and proliferation, stimulate endothelial dysfunction and activation and promote hypertension.

in vitro: Addition of 20-HETE to the bath (1-100 nM), reduced the frequency of opening of the large-conductance Ca(2+)-activated K<sup>+</sup> channel recorded using cell-attached patches on VSM [1]. In kidney, 20-HETE induces diuresis by inhibiting Na<sup>+</sup>-K<sup>+</sup>-ATPase in proximal tubules and Na<sup>+</sup>/K<sup>+</sup>/Cl<sup>+</sup> cotransporter in the thick ascending limb of Henle's loop [2].

in vivo: In Cyp4a14(-/-) mice, which display androgen-driven and 20-HETE-dependent hypertension, treatment with 20-HETE antagonist abolished remodeling of renal resistance arteries measured as media thickness (24±1 vs. 15±1µm) and M/L (0.29±0.03 vs. 0.17±0.01) [4]. The transgenic mice had overexpressed hepatic CYP4F2, high hepatic 20-HETE and fasting plasma glucose levels but normal insulin level. The GP activity was increased and the cAMP/PKA-PhK-GP pathway was activated in the transgenic mice compared with wild-type mice [5].

Clinical trial: Mechanisms of Response to Diesel Exhaust in Subjects With Asthma. Phase not specified



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