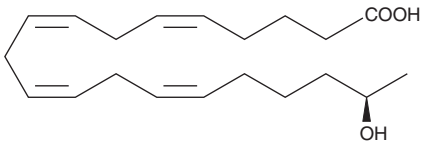
Product Information

19(R)-HETE

Catalog No. 10007767

CAS Registry No.:	115461-39-7
Formal Name:	19R-hydroxy-5Z,8Z,11Z,14Z-eicosatetraenoic acid
MF:	$C_{20}H_{32}O_3$
FW:	320.5
Purity:	≥98%
Stability:	≥1 year at -20°C
Supplied as:	A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that 19(R)-HETE be stored as supplied at -20°C. It should be stable for at least one year.

19(R)-HETE is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 19(R)-HETE in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 19(R)-HETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 19(R)-HETE in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

19-HETE is one of the major cytochrome P450 (CYP450) metabolites of arachidonic acid that is released from the kidney in response to angiotensin II. When formed by the CYP2E1 isoform, 19-HETE is composed of 70% and 30% of the (S) and (R) stereoisomers, respectively.[1] Both 19(S)- and 19(R)-HETE are potent vasodilators of renal preglomerular vessels.[2] However, 19(R)-HETE at 1 µM completely blocks 20-HETE-induced vasoconstriction of renal arterioles, whereas 19(S)-HETE remains inactive.[3,4]

References

1. Laethem, R.M., Balazy, M., Falck, J.R., *et al.* Formation of 19(S)-, 19(R)-, and 18(R)-hydroxyeicosatetraenoic acids by alcohol-inducible cytochrome P450 2E1. *J. Biol. Chem.* **268(17)**, 12912-12918 (1993).
2. Carroll, M.A., Balazy, M., Margiotta, P., *et al.* Cytochrome P-450-dependent HETEs: Profile of biological activity and stimulation by vasoactive peptides. *Am. J. Physiol.* **271**, R863-R869 (1996).
3. Alonso-Galicia, M., Falck, J.R., Reddy, K.M., *et al.* 20-HETE agonists and antagonists in the renal circulation. *Am. J. Physiol. Renal Physiol.* **277**, 790-796 (1999).
4. Zhang, F., Deng, H., Kemp, R., *et al.* Decreased levels of cytochrome P450 2E1-derived eicosanoids sensitize renal arteries to constrictor agonists in spontaneously hypertensive rats. *Hypertension* **45**, 103-108 (2005).

Related Products

19(S)-HETE - Cat. No. 10007766 • (±)19-HETE - Cat. No. 9000181

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com