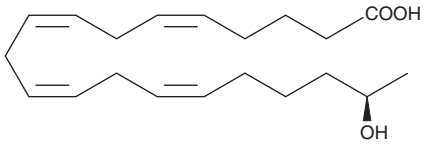
PRODUCT INFORMATION

19(R)-HETE

Item No. 10007767

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



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

19(R)-HETE is supplied as a solution in ethanol. A stock solution may be made by dissolving the 19(R)-HETE in the solvent of choice, which should be purged with an inert gas. 19(R)-HETE is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 19(R)-HETE in ethanol is approximately 50 mg/ml and approximately 20 mg/ml in DMSO and DMF.

19(R)-HETE is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 19(R)-HETE should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 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.

Description

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM