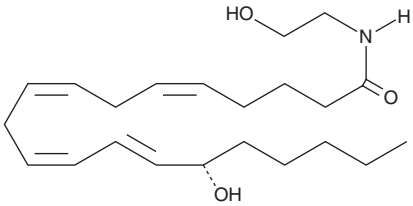
PRODUCT INFORMATION

15(S)-HETE Ethanolamide

Item No. 10169

CAS Registry No.: 161744-53-2
Formal Name: 15(S)-hydroxy-N-(2-hydroxyethyl)-5Z,8Z,11Z,13E-eicosatetraenamide
Synonyms: 15(S)-HAEA, 15(S)-Hydroxyeicosatetraenoic Acid Ethanolamide
MF: $C_{22}H_{37}NO_3$
FW: 363.5
Purity: ≥98%
UV/Vis.: λ_{max}: 236 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

15(S)-HETE ethanolamide 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 15(S)-HETE ethanolamide in these solvents is approximately 10 mg/ml.

15(S)-HETE ethanolamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 15(S)-HETE ethanolamide should be diluted with the aqueous buffer of choice. 15(S)-HETE ethanolamide has a solubility of approximately 5 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Arachidonoyl ethanolamide (AEA; Item No. 90050) was the first endogenous cannabinoid (CB) to be isolated and characterized as an agonist acting on the same receptors (CB_1 and CB_2) as THC.[1,2] Since that time, a number of related endocannabinoids have been isolated, most notably 2-arachidonoyl glycerol (Item No. 62160).[2]

Lipoxygenases, especially rabbit reticulocyte and soybean 15-lipoxygenases, actively convert endocannabinoids to their 15(S)-hydroperoxy and hydroxy metabolites.[3] 15(S)-HETE ethanolamide is less potent than AEA at the CB_1 receptor (K_i of 600 *versus* 90 nM). 15(S)-HETE ethanolamide also inhibits fatty acid amide hydrolase.[4]

References

1. Devane, W.A., Hanus, L., Breuer, A., *et al.* Isolation and structure of a brain constituent that binds to the cannabinoid receptor. *Science* **258**, 1946-1949 (1992).
2. Felder, C.C., Briley, E.M., Axelrod, J., *et al.* Anandamide, an endogenous cannabimimetic eicosanoid, binds to the cloned human cannabinoid receptor and stimulates receptor-mediated signal transduction. *Proc. Natl. Acad. Sci. USA* **90**, 7656-7660 (1993).
3. Ueda, N., Yamamoto, K., Kurahashi, Y., *et al.* Oxygenation of arachidonylethanolamide (anandamide) by lipoxygenases. *Adv. Prostaglandin Thromboxane Leukot. Res.* **23**, 163-165 (1995).
4. van der Stelt, M., van Kuik, A., Bari, M., *et al.* Oxygenated metabolites of anandamide and 2-arachidonoylgycerol: Conformational analysis and interaction with cannabinoid receptors, membrane transporter, and fatty acid amide hydrolase. *J. Med. Chem.* **45**, 3709-3720 (2002).

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