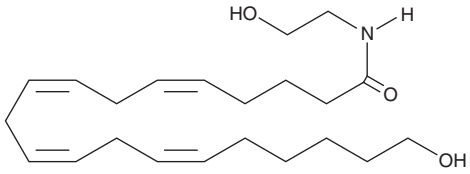
PRODUCT INFORMATION

20-HETE Ethanolamide

Item No. 10008602

CAS Registry No.:	942069-11-6
Formal Name:	20-hydroxy-N-(2-hydroxyethyl)-5Z,8Z,11Z,14Z-eicosatetraenamide
Synonyms:	20-hydroxy AEA, 20-hydroxy Arachidonoyl Ethanolamide, 20-Hydroxyeicosatetraenoic Acid Ethanolamide
MF:	$C_{22}H_{37}NO_3$
FW:	363.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 210, 232 nm
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

20-HETE ethanolamide is supplied as a solution in ethanol. A stock solution may be made by dissolving the 20-HETE ethanolamide in the solvent of choice, which should be purged with an inert gas. 20-HETE ethanolamide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 20-HETE ethanolamide in these solvents is approximately 10 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 20-HETE ethanolamide is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 20-HETE ethanolamide in PBS, pH 7.2, is approximately 0.1 mg/ml.

Description

Arachidonoyl ethanolamide (AEA) is an endogenous lipid neurotransmitter with cannabinergic activity, binding both the central cannabinoid (CB_1) and peripheral cannabinoid (CB_2) receptors.[1,2] Fatty acid amide hydrolase (FAAH) is the enzyme responsible for the hydrolysis and inactivation of AEA.[3] Metabolism of AEA by cyclooxygenase-2, leading to formation of prostaglandin ethanolamides, and by lipoxygenases has also been documented.[4] 20-HETE ethanolamide is a potential cytochrome P450 metabolite of arachidonoyl ethanolamide, which may be particularly relevant under conditions of fatty acid amide hydrolase inhibition. Evidence for the formation of 20-HETE ethanolamide *in vivo* has not been documented.

References

1. 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(16)**, 7656-7660 (1993).
2. Lambert, D.M. and Fowler, C.J. The endocannabinoid system: Drug targets, lead compounds, and potential therapeutic applications. *J. Med. Chem.* **48(16)**, 5059-5087 (2005).
3. Deutsch, D.G., Ueda, N., and Yamamoto, S. The fatty acid amide hydrolase (FAAH). *Prostaglandins Leukot. Essent. Fatty Acids* **66(2-3)**, 201-210 (2002).
4. Kozak, K.R. and Marnett, L.J. Oxidative metabolism of endocannabinoids. *Prostaglandins Leukot. Essent. Fatty Acids* **66(2-3)**, 211-220 (2002).

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