Product Information

Mead Acid Ethanolamide

Product Number **M 2564**
Storage Temperature –20 °C

CAS#: 169232-04-6
Synonyms: 5,8,11-Eicosatrienamide, N-(2-hydroxyethyl)-,(Z,Z,Z)-

Product Description
Molecular Formula: $C_{22}H_{39}NO_2$
Molecular Weight: 349.6

Anandamide (arachidonylethanolamide, Product No. A 0580) is an endogenous agonist for the cannabinoid receptor subtypes CB_1 and CB_2. Its interaction with the receptor results in activation of G proteins responsible for regulating different effects including inhibition of adenylate cyclase.

Mead acid ethanolamide, chemically synthesized from from 5,8,11-eicosatrienoic acid and ethanolamide, was shown to be essentially identical to anandamide in its binding to both CB_1 and CB_2 receptors. Mead acid ethanolamide was equipotent to anandamide in binding to the plasma membrane from L cells expressing the human CB_1 receptor and from ATt-20 cells expressing the human CB_2 receptor.

Mead acid ethanolamide is supplied as a solution in ethanol. The purity is ≥98%.

Precautions and Disclaimer
This product is for laboratory research only. Please consult the Material Safety Data Sheet for information regarding the hazards and safe handling practices.

Preparation Instructions
Mead acid ethanolamide is supplied as a solution in ethanol. To change this solvent, evaporate the ethanol under a gentle stream of an inert gas such as argon or dry nitrogen and immediately add the solvent of choice. Solvents such as dimethyl sulfoxide (DMSO) and N,N-dimethylformamide (DMF) purged with an inert gas can be used. The solubility of Mead acid ethanolamide in these solvents is at least 10 mg/ml. Store solutions under argon or nitrogen since Mead acid ethanolamide is sensitive to air. Protect the solutions from light. Mead acid ethanolamide is stable for at least six months in these solvents when stored as aliquots at –20 °C.

Mead acid ethanolamide solid is not directly soluble in an aqueous solution. The stock solutions should be further diluted into aqueous buffers or isotonic saline (ensure that the residual amount of organic solvent is not causing physiological effects at low concentrations of the organic solvent) for biological experiments. The product, supplied in ethanol, can be diluted with an equal volume of PBS, pH 7.2, to give a concentration of approximately 5 mg/ml. The concentration should not exceed 5 mg/ml.

Storage/Stability
Mead acid ethanolamide is shipped on wet ice and should be stored at –20 °C (avoid frost free freezers.) The product as supplied is stable for at least 1 year.

References

1. Devane, W.A., et al., Isolation and structure of a brain constituent that binds to the cannabinoid receptor. Science, **258**, 1946-49 (1992).
2. Axelrod, J. and Felder, C.C., Cannabinoid receptors and their endogenous agonist, anandamide. Neurochem. Res., **23**, 575-81 (1998).
3. Priller, J., et al., Mead ethanolamide, a novel eicosanoid, is an agonist for the central (CB1) and peripheral (CB2) cannabinoid receptors. Mol. Pharmacol. **48**, 288-92 (1995).

RLC/ARO 12/01