

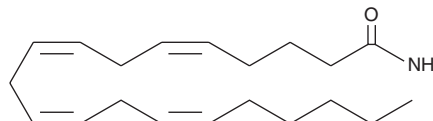
PRODUCT INFORMATION



Arachidonoyl amide

Item No. 10007295

CAS Registry No.: 85146-53-8
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenamide
Synonyms: Arachidonamide, Arachidonic Acid amide
MF: C₂₀H₃₃NO
FW: 303.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

Arachidonoyl amide is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of arachidonoyl amide 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. For greater aqueous solubility, arachidonoyl amide can be directly dissolved in 0.1 M Na₂CO₃ (1 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

Description

Anandamide (AEA) is an endogenous cannabinoid that binds to both central cannabinoid (CB₁) and peripheral cannabinoid (CB₂) receptors. The biological actions of AEA are terminated by cellular uptake and hydrolysis of the amide bond by the enzyme fatty acid amide hydrolase (FAAH). Arachidonoyl amide is an analog of AEA that lacks the hydroxyethyl moiety. It is hydrolyzed by FAAH more effectively than AEA but exhibits significantly weaker binding to the human CB₁ receptor with a K_i of 9.6 μM.^{1,2} Arachidonoyl amide and AEA exhibit similar binding and translocation into cells via the AEA transporter. It inhibits [³H]-AEA uptake into human astrocytoma cells with an IC₅₀ of 9 μM.³ Arachidonoyl amide also inhibits rat glial gap junction cell-cell communication by 90% at a concentration of 20 μM.⁴

References

1. Felder, C.C., Briley, E.M., Axelrod, J., *et al.* Anandamide, an endogenous cannabinimimetic eicosanoid, binds to the cloned human cannabinoid receptor and stimulates receptor-mediated signal transduction. *Proc. Natl. Acad. Sci. USA* **90**, 7656-7660 (1993).
2. Lang, W., Qin, C., Lin, S., *et al.* Substrate specificity and stereoselectivity of rat brain microsomal anandamide amidohydrolase. *J. Med. Chem.* **42**, 896-902 (1999).
3. Piomelli, D., Beltramo, M., Glasnapp, S., *et al.* Structural determinants for recognition and translocation by the anandamide transporter. *Proc. Natl. Acad. Sci. USA* **96**, 5802-5807 (1999).
4. Boger, D.L., Sato, H., Lerner, A.E., *et al.* Arachidonic acid amide inhibitors of gap junction cell-cell communication. *Bioorg. Medicinal Chem. Letters* **9**, 1151-1154 (1999).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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