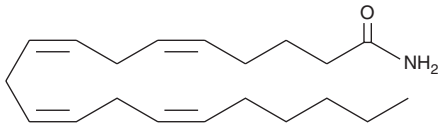
PRODUCT INFORMATION

Arachidonoyl amide

Item No. 10007295

CAS Registry No.: 85146-53-8
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenamide
Synonyms: Arachidonamide, Arachidonic Acid amide
MF: $C_{20}H_{33}NO$
FW: 303.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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.

Arachidonoyl amide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of arachidonoyl amide should be diluted with the aqueous buffer of choice. The solubility of arachidonoyl amide in 0.1 M Na_2CO_3 is approximately 1 mg/ml. 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 (CB_1) and peripheral cannabinoid (CB_2) 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 CB_1 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 [^{3}H]-AEA uptake into human astrocytoma cells with an IC_{50} 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

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2. Lang, W., Qin, C., Lin, S., *et al.* Substrate specificity and stereoselectivity of rat brain microsomal anandamide amidohydrolase. *J. Med. Chem.* **42(5)**, 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(10)**, 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(8)**, 1151-1154 (1999).

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