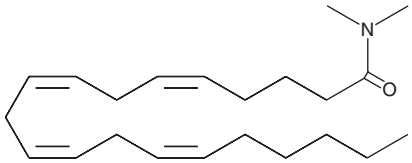
PRODUCT INFORMATION

Arachidonoyl-N,N-dimethyl amide

Item No. 10007293

CAS Registry No.: 45280-17-9
Formal Name: N,N-dimethyl-5Z,8Z,11Z,14Z-eicosatetraenamide
Synonym: Arachidonic Acid-N,N-dimethyl amide
MF: $C_{22}H_{37}NO$
FW: 331.5
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-N,N-dimethyl 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-N,N-dimethyl 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-N,N-dimethyl amide can be prepared by evaporating the methyl acetate and directly dissolving in 0.1 M Na_2CO_3 (0.1 M) 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 (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. Arachidonoyl-N,N-dimethyl amide is an analog of AEA that exhibits weak or no binding to the human CB_1 receptor (K_i >1 µM).[1] It inhibits rat glial gap junction cell-cell communication 100% at a concentration of 50 µM.[2]

References

1. Sheskin, T., Hanus, L., Slager, J., *et al.* Structural requirements for binding of anandamide-type compounds to the brain cannabinoid receptor. *J. Med. Chem.* **40**, 659-667 (1997).
2. 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).

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