

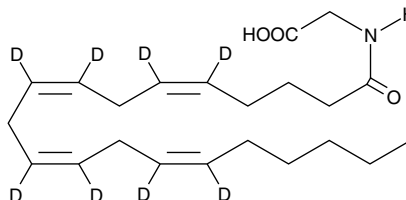
Product Information



Arachidonoyl Glycine-d₈

Item No. 10007531

CAS Registry No.: 1159908-44-7
Formal Name: N-[1-oxo-5Z,8Z,11Z,14Z-eicosatetraenyl]-glycine,5,6,8,9,11,12,14,15-d₈
Synonyms: N-Arachidonoyl Glycine-d₈, NAGly-d₈
MF: C₂₂H₂₇D₈NO₃
FW: 369.6
Chemical Purity: ≥97%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

Arachidonoyl glycine-d₈ (NAGly-d₈) contains eight deuterium atoms at the 5, 6, 8, 9, 11, 12, 14, and 15 positions. It is intended for use as an internal standard for the quantification of NAGly by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that NAGly-d₈ be stored as supplied at -20°C. It will be stable for at least two years.

NAGly-d₈ is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of NAGly-d₈ in these solvents is approximately 15 mg/ml.

NAGly-d₈ is used as an internal standard for the quantification of NAGly by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

NAGly has been isolated from cell cultures treated with arachidonoyl ethanolamide (AEA),¹ from extracts of mammalian brain,^{2,3} and has also been synthesized as an analog of AEA for structure/activity testing.⁴ NAGly may be produced endogenously *via* oxidation of AEA or by transacylation of arachidonoyl coenzyme A. NAGly is reported to have analgesic activities in whole animal experiments.¹⁻³ Since it seems to be a very poor ligand for the CB₁ receptor,⁴ these effects are probably mediated *via* other signalling pathways.

References

1. Burstein, S.H., Rossetti, R.G., Yagen, B., *et al.* Oxidative metabolism of anandamide. *Prostaglandins and Other Lipid Mediators* **61**, 29-41 (2000).
2. Huang, S.M., Bisogno, T., Petros, T.J., *et al.* Identification and characterization of an endogenous anandamide-like compound: N-arachidonylglycine (NAGly). *ICRS 2001 Symposium on the Cannabinoids* 78 (2001).
3. Huang, S.M., Bisogno, T., Petros, T.J., *et al.* Identification of a new class of molecules, the arachidonyl amino acids, and characterization of one member that inhibits pain. *J. Biol. Chem.* **276**(46), 42639-42644 (2001).
4. 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).

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