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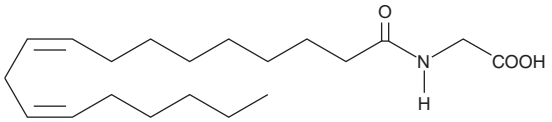
Product Information

Linoleoyl Glycine

Item No. 9000326

CAS Registry No.: 2764-03-6
Formal Name: N-9Z,12Z-1-oxo-octadecadien-1-yl-glycine
Synonyms: Glycine Linoleamide, LinGly, N-Linoleoyl Glycine
MF: $C_{20}H_{35}NO_3$
FW: 337.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that linoleoyl glycine (LinGly) be stored as supplied at -20°C. It should be stable for at least two years.

LinGly is supplied as a crystalline solid. A stock solution may be made by dissolving the LinGly in an organic solvent purged with an inert gas. LinGly is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of LinGly in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

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. Organic solvent-free aqueous solutions of LinGly can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of LinGly in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Arachidonyl glycine, the conjugate of arachidonic acid and glycine produced in mammalian brain, skin, and spinal cord, is a structural analog of anandamide (AEA) that is reported to have analgesic activities in whole animal experiments.[1-3] It has poor affinity for the central cannabinoid (CB_1) receptor, high-affinity for the G protein-coupled receptor GPR-18, and is metabolically regulated by fatty acid amide hydrolase (FAAH) activity.[4] LinGly is an endogenous homolog of linoleoyl ethanolamide and arachidonyl glycine. It inhibits the hydrolysis of AEA in FAAH-containing N18TG2 cell membranes with an IC_{50} value of ~25 µM, which is less potent than that of arachidonyl glycine (IC_{50} = 7 µM).[4] The biological significance of LinGly has not yet been determined.

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. Rimmerman, N., Bradshaw, H.B., Hughes, H.V., *et al.* N-palmitoyl glycine, a novel endogenous lipid that acts as a modulator of calcium influx and nitric oxide production in sensory neurons. *Mol. Pharmacol.* **74(1)** (2008).

Related Products

N-(α-Linolenoyl) Tyrosine - Item No. 10032 • 2-Linoleoyl Glycerol - Item No. 62260 • Arachidonoyl Glycine - Item No. 90051 • Linoleoyl Ethanolamide - Item No. 90155 • α-Linolenoyl Ethanolamide - Item No. 90215 • Dihomo-γ-Linolenoyl Ethanolamide - Item No. 90235 • Arachidonoyl Glycine-d_8 - Item No. 10007531 • 1-Linoleoyl Glycerol - Item No. 10008869

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