

Certificate of Analysis

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Product Name: *N*-Arachidonylglycine

Catalog No.: 1445

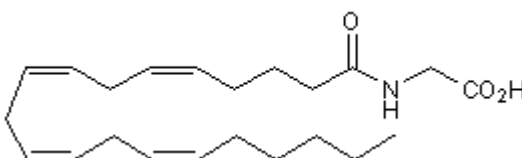
Batch No.: 1

CAS Number: 179113-91-8

IUPAC Name: *N*-(1-oxo-5Z,8Z,11Z,14Z-eicosatetraenyl)glycine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₃₅NO₃
Batch Molecular Weight: 361.52
Physical Appearance: Light yellow Waxy solid
Solubility: ethanol to 100 mM
Storage: Desiccate at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.36 (Chloroform:Methanol [8:2])
Melting Point: Between 44 - 46°C
HPLC: Shows 99.4% purity
¹H NMR: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	73.09	9.76	3.87
Found	72.69	9.89	3.66

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

GPR18 agonist (EC₅₀ = 44.5 nM). Endogenous anandamide-like compound. Lacks affinity for CB₁ receptors (K_i > 10 μM), VR1 receptors (EC₅₀ > 10 μM) and anandamide transporters (IC₅₀ > 50 μM) but causes hot-plate analgesia in mice when given orally, and suppresses tonic inflammatory pain. Also endogenous GlyT2 inhibitor.

Physical and Chemical Properties:

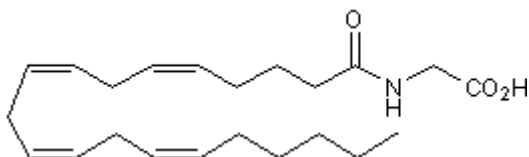
Batch Molecular Formula: C₂₂H₃₅NO₃

Batch Molecular Weight: 361.52

Physical Appearance: Light yellow Waxy solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

McHugh et al (2012) Δ9-Tetrahydrocannabinol and N-arachidonyl glycine are full agonists at GPR18 receptors and induce migration in human endometrial HEC-1B cells Br.J.Pharmacol. **2414** 165. PMID: 21595653.

Edington et al (2009) Extracellular loops 2 and 4 of GLYT2 are required for N-arachidonylglycine inhibition of glycine transport. J.Biol.Chem. **284** 36424. PMID: 19875446.

Kohno et al (2006) Identification of N-arachidonylglycine as the endogenous ligand for orphan G-protein-coupled receptor GPR18. Biochem Biophys Res Commun. **347** 827. PMID: 16844083.

Huang et al (2001) Identification of a new class of molecules, the arachidonyl amino acids, and characterization of one member that inhibits pain. J.Biol.Chem. **276** 42639. PMID: 11518719.

Burnstein et al (2000) Oxidative metabolism of anandamide. Prostaglandins Other Lipid Mediat. **61** 29. PMID: 10785540.

Sheskin et al (1997) Structural requirements for binding of anandamide-type compounds to the brain cannabinoid receptor. J.Med.Chem. **40** 659. PMID: 9057852.

Storage: Desiccate at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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