

Certificate of Analysis

Print Date: Apr 28th 2015

www.tocris.com

Product Name: Palmitoylethanolamide

CAS Number: 544-31-0 **IUPAC Name:** N-(2-Hydroxyethyl)hexadecanamide Catalog No.: 0879 EC Number: 208-867-9 Batch No.: 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: Batch Molecular Weight: Physical Appearance: Solubility:

Storage: **Batch Molecular Structure:** C₁₈H₃₇NO₂.¼H₂O

304 White solid DMSO to 20 mM ethanol to 25 mM Store at RT

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2. ANALYTICAL DATA

TLC: **Melting Point:** ¹H NMR: Mass Spectrum: **Microanalysis:**

R_f = 0.4 (Dichloromethane:Methanol:Ammonia soln. [18:1:0.001) Between 100 - 101°C Consistent with structure Consistent with structure Carbon Hydrogen Nitrogen Theoretical 71.12 12.43 4.61 Found 70.91 12.46 4.68

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





Product Information

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Batch No.: 3

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CAS Number: 544-31-0 IUPAC Name: *N*-(2-Hydroxyethyl)hexadecanamide

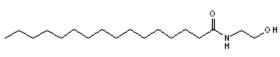
Description:

Endogenous lipid that acts as a selective GPR55 agonist (EC₅₀ values are 4, 19 800 and > 30 000 nM at GPR55, CB₂ and CB₁ receptors respectively). Substrate for fatty acid amide hydrolase (FAAH) and PEA-preferring acid amidase (PAA) and exhibits antinociceptive and anticonvulsant in vivo. Directly activates PPARa (EC₅₀ = 3 μ M) producing robust anti-inflammatory actions.

Physical and Chemical Properties:

Batch Molecular Formula: C₁₈H₃₇NO₂.¹/₄H₂O Batch Molecular Weight: 304 Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at RT

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

Catalog No.: 0879

EC Number: 208-867-9

Solubility & Usage Info:

DMSO to 20 mM ethanol to 25 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.

References:

Lambert *et al* (2001) Anticonvulsant activity of N-palmitoylethanolamide, a putative endocannabinoid, in mice. Epilepsia 42 321. PMID: 11442148.

Lambert *et al* (2002) The palmitoylethanolamide family: a new class of anti-inflammatory agents? Curr.Med.Chem. **9** 663. PMID: 11945130.

Lo Verme et al (2005) The search for the palmitoylethanolamide receptor. Life Sci. 77 1685. PMID: 15963531.

Re *et al* (2005) Palmitoylethanolamide, endocannabinoids and related cannabimimetic compounds in protection against tissue inflammation and pain: potential use in companion animals. Vet.J. **173** 21. PMID: 16324856.

Ryberg et al (2007) The orphan receptor GPR55 is a novel cannabinoid receptor. Br.J.Pharmacol. 152 1092. PMID: 17876302.

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