

# Certificate of Analysis

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**Product Name:** Noladin ether

**Catalog No.:** 1411

**Batch No.:** 3

CAS Number: 222723-55-9

IUPAC Name: 2-[(5Z,8Z,11Z,14Z)-Eicosatetraenyloxy]-1,3-propanediol

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>23</sub>H<sub>40</sub>O<sub>3</sub>

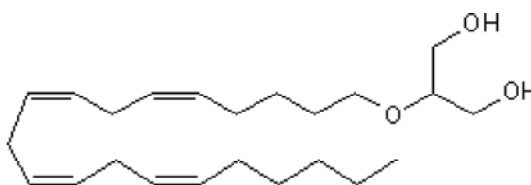
**Batch Molecular Weight:** 364.57

**Physical Appearance:** Yellow oil

**Solubility:** Soluble in ethanol (supplied pre-dissolved in anhydrous ethanol, 5mg/ml)

**Storage:** Desiccate at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.46 (Chloroform:Methanol [9:1])

**HPLC:** Shows >98.5% purity

**<sup>1</sup>H NMR:** Consistent with structure

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

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**Description:**

Endogenous agonist for the GPR55 and CB<sub>1</sub> receptors (EC<sub>50</sub> values are 10 and 37 nM respectively) that displays selectivity over CB<sub>2</sub> receptors (K<sub>i</sub> values are 21.2 nM and > 3mM at CB<sub>1</sub> and CB<sub>2</sub> respectively). Causes sedation, hypothermia, intestinal immobility and mild antinociception in vivo. Attenuates sensory neurotransmission in rat mesenteric arteries via GPR55.

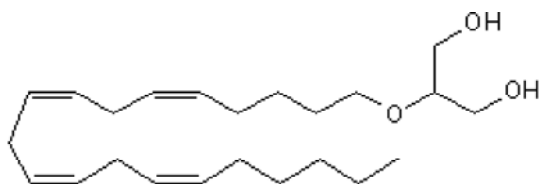
**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>23</sub>H<sub>40</sub>O<sub>3</sub>

Batch Molecular Weight: 364.57

Physical Appearance: Yellow oil

**Batch Molecular Structure:**



**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:**

Soluble in ethanol (supplied pre-dissolved in anhydrous ethanol, 5mg/ml)

This product is supplied dissolved in anhydrous ethanol at a concentration of 5mg/ml

**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:**

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

**Duncan *et al*** (2004) Noladin ether, a putative endocannabinoid, attenuates sensory neurotransmission in the rat isolated mesenteric arterial bed via a non-CB<sub>1</sub>/CB<sub>2</sub> G<sub>i/o</sub> linked receptor. *Br.J.Pharmacol.* **142** 509. PMID: 15148262.

**Hanus *et al*** (2001) 2-Arachidonyl glyceryl ether, an endogenous agonist of the cannabinoid CB<sub>1</sub> receptor. *Proc.Natl.Acad.Sci.U.S.A.* **98** 3662. PMID: 11259648.

**Suhara *et al*** (2000) Synthesis and biological activities of 2-arachidonoylglycerol, an endogenous cannabinoid receptor ligand, and its metabolically stable ether-linked analogues. *Chem.Pharm.Bull.* **48** 903. PMID: 10923815.

**Sugiura *et al*** (1999) Evidence that the cannabinoid CB<sub>1</sub> receptor is a 2-arachidonoylglycerol receptor. *J.Biol.Chem.* **274** 2794. PMID: 9915812.

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