

# Certificate of Analysis

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**Product Name:** Docosahexaenoic acid

**Catalog No.:** 3687

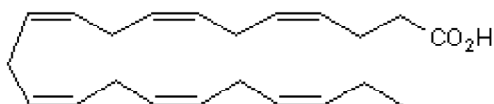
**Batch No.:** 15

CAS Number: 6217-54-5

IUPAC Name: (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-Docosahexaenoic acid

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>22</sub>H<sub>32</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 328.49  
**Physical Appearance:** Colourless liquid  
**Solubility:** DMSO to 100 mM  
 ethanol to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

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

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

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**Description:**

Docosahexaenoic acid is an endogenous omega-3 fatty acid. Acts as a selective retinoid X receptor (RXR) agonist that displays no activity at RAR, thyroid hormone receptor or the vitamin D receptor (VDR). Activates all three RXR isoforms. Also shown to inhibit Aβ<sub>1-42</sub> fibrillation and toxicity in vitro.

**Physical and Chemical Properties:**

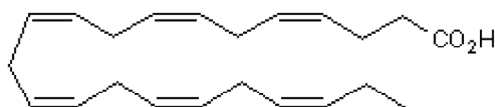
Batch Molecular Formula: C<sub>22</sub>H<sub>32</sub>O<sub>2</sub>

Batch Molecular Weight: 328.49

Physical Appearance: Colourless liquid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C. This product is packaged under an inert atmosphere.

**Solubility & Usage Info:**

DMSO to 100 mM  
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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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:**

**Hossain *et al*** (2009) Mechanism of docosahexaenoic acid-induced inhibition of *in vitro* Aβ<sub>1-42</sub> fibrillation and Aβ<sub>1-42</sub>-induced toxicity in SH-SY5Y cells. *J.Neurochem.* **111** 568. PMID: 19686246.

**Zapata-Gonzalez *et al*** (2008) Human dendritic cell activities are modulated by the omega-3 fatty acid, docosahexaenoic acid, mainly through PPARγ: RXR heterodimers: comparison with other polyunsaturated fatty acids. *J.Leukoc.Biol.* **84** 1172. PMID: 18632990.

**Mata de Urqunia *et al*** (2000) Docosahexaenoic acid, a ligand for the retinoid X receptor in mouse brain. *Science* **290** 2140. PMID: 11118147.

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