

**Product Name:** Celastrol

**Catalog No.:** 3203

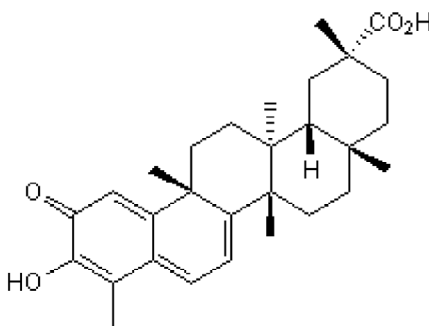
**Batch No.:** 3

CAS Number: 34157-83-0

IUPAC Name: (9β,13α,14β,20α)-3-Hydroxy-9,13-dimethyl-2-oxo-24,25,26-trinoroleana-1(10),3,5,7-tetraen-29-oic acid

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>29</sub>H<sub>38</sub>O<sub>4</sub>  
**Batch Molecular Weight:** 450.61  
**Physical Appearance:** Red solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 75 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	77.3	8.5	
Found	76.97	8.73	

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**Description:**

Celastrol is an antioxidant, anti-inflammatory, antitumor and neuroprotective agent. Inhibits lipid peroxidation in mitochondria, TNF- $\alpha$ -induced NF $\kappa$ B activation, peroxidase activity of peroxiredoxin PRDX1 (IC<sub>50</sub> = 0.29  $\mu$ M), and topoisomerase II activity in vitro (IC<sub>50</sub> = 7.41  $\mu$ M). Celastrol treatment inhibits the growth of PC-3 tumors in mice.

**Physical and Chemical Properties:**

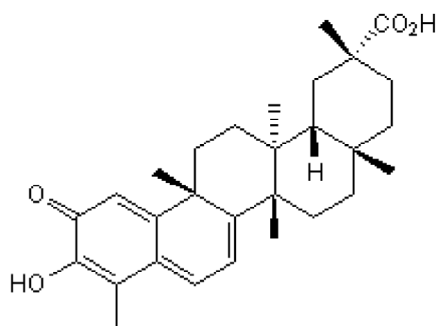
Batch Molecular Formula: C<sub>29</sub>H<sub>38</sub>O<sub>4</sub>

Batch Molecular Weight: 450.61

Physical Appearance: Red solid

**Minimum Purity:**  $\geq$ 99%

**Batch Molecular Structure:**



**References:**

**Xu et al (2023)** Celastrol suppresses colorectal cancer via covalent targeting peroxiredoxin 1. *Signal Transduct. Target Ther.* **8** 51. PMID: 36732502.

**Sethi et al (2007)** Celastrol, a novel triterpene, potentiates TNF-induced apoptosis and suppresses invasion of tumor cells by inhibiting NF- $\kappa$ B-regulated gene products and TAK1-mediated NF- $\kappa$ B activation. *Blood* **109** 2727. PMID: 17110449.

**Yang et al (2006)** Celastrol, a triterpene extracted from the Chinese "Thunder of God Vine," is a potent proteasome inhibitor and suppresses human prostate cancer growth in nude mice. *Cancer Res.* **66** 4758. PMID: 16651429.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 75 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.

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