



## Product Information

Product ID P0270

CAS No. 20554-84-1

Chemical Name

Synonym

Formula  $C_{15}H_{20}O_3$

Formula Wt. 248.32

Melting Point 112-115°C

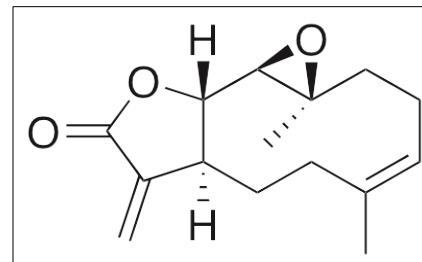
Purity ≥98%

Solubility DMSO (100 mg/ml), Ethanol (20 mg/ml), Dichloromethane.

Store Temp 4°C

Ship Temp Ambient

**Description** Parthenolide is a sesquiterpene lactone found in *Tanacetum* that exhibits anticancer chemotherapeutic, anti-metastatic, anti-angiogenic, anti-inflammatory, and antinociceptive activities. Parthenolide acts as a partial agonist at transient receptor potential ankyrin 1 (TRPA1) channels and desensitizes them, preventing release of calcitonin gene-related peptide (CGRP). Additionally, parthenolide inhibits ATPase activity of NLRP3 and protease activity of caspase 1. In multiple myeloma cells, parthenolide decreases expression of NF-κB, VEGF, and IL-6 and increases expression of IκB kinase, inhibiting cell migration and tubule formation. In non-small cell lung cancer (NSCLC) cells, parthenolide decreases levels of MCL-1 and increases levels of MAIP-1, triggering ER stress and inducing cell cycle arrest and apoptosis. In breast cancer cells, this compound activates NADPH oxidase and increases ROS generation, increasing levels of p-JNK and downregulating NF-κB, VEGF, and matrix metalloproteinases 2 and 9 (MMP2/9); in vivo, parthenolide inhibits tumor growth and metastasis.



## Pricing and Availability

**Bulk quantities available upon request**

Product ID	Size	List Price
P0270	25 mg	\$75.00
P0270	100 mg	\$150.00
P0270	250 mg	\$300.00

**References** Zhao X, Liu X, Su L. Parthenolide induces apoptosis via TNFRSF10B and PMAIP1 pathways in human lung cancer cells. *J Exp Clin Cancer Res.* 2014 Jan 6;33(1):3. PMID: 24387758.

Materazzi S, Benemei S, Fusi C, et al. Parthenolide inhibits nociception and neurogenic vasodilatation in the trigeminovascular system by targeting the TRPA1 channel. *Pain.* 2013 Dec;154(12):2750-8. PMID: 23933184.

D'Anneo A, Carlisi D, Lauricella M, et al. Parthenolide generates reactive oxygen species and autophagy in MDA-MB231 cells. A soluble parthenolide analogue inhibits tumour growth and metastasis in a xenograft model of breast cancer. *Cell Death Dis.* 2013 Oct 31;4:e891. PMID: 24176849.

Juliana C, Fernandes-Alnemri T, Wu J, et al. Anti-inflammatory compounds parthenolide and Bay 11-7082 are direct inhibitors of the inflammasome. *J Biol Chem.* 2010 Mar 26;285(13):9792-802. PMID: 20093358.

<https://en.wikipedia.org/wiki/Parthenolide>

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.