Triptolide

NF-κB activation inhibitor

Catalog # ant-tpl

For research use only

Version # 12B24-MM

PRODUCT INFORMATION

Content:

Triptolide is supplied as a white solid.

- **ant-tpl:** 1 mg

Storage and stability:

- Triptolide is shipped at room temperature. Store as supplied at -20°C in a tightly sealed vial. Protect from light. Triptolide as a solid is stable for 6 months when properly stored.
- Once solubilized, prepare aliquots of triptolide and store at -20°C. Avoid repeated freeze-thaw cycles. Protect from light. Solubilized triptolide is stable for 3 months when properly stored.

Quality control

Purity : >98%

DESCRIPTION

Triptolide, a diterpenoid isolated from *Tripterygium wilfordii* hook F, has been used for centuries in traditional Chinese medicine to treat immune-related disorders. In addition to its anti-inflammatory and immunosuppressive activities, triptolide possesses potent antitumor properties. In a broad range of human tumor cells, Triptolide suppresses cell proliferation and induces apoptosis through caspase activation[1]. At a molecular level, Triptolide inhibits global gene transcription by inducing degradation of RNA polymerase II (Pol II)[2], and by inhibiting the ATPase activity of XPB[3], a subunit of the general transcription factor TFIIH. Triptolide interferes with a number of transcription factors including p53[4], NF-κB[5], nuclear factor of activated T-cells (NFAT)[5] and heat shock factor protein 1 (HSF-1)[6].

1. Carter BZ. *et al.*, 2006. Triptolide induces caspase-dependent cell death mediated via the mitochondrial pathway in leukemic cells. Blood 108: 630 - 637. **2. Wang Y. et al., 2011.** Triptolide (TPL) inhibits global transcription by inducing proteasome-dependent degradation of RNA polymerase II (Pol II). PLoS One. 6(9):e23993. **3. Titov D. et al., 2011.** XPB, a subunit of TFIIH, is a target of the natural product triptolide. Nat Chem Biol. 7(3):182-8. **4. Chang, W.T. *et al.*, 2001.** Triptolide and chemotherapy cooperate in tumor cell apoptosis. A role for the p53 pathway. J. Biol. Chem. 276, 2221–2227. **5. Qiu D. et al., 1999.** Immunosuppressant PG490 (triptolide) inhibits T-cell interleukin-2 expression at the level of purine-box/nuclear factor of activated T-cells and NF-kappaB transcriptional activation. J. Biol. Chem. 274, 13443–13450. **6. Westerheide SD. et al., 2006.** Triptolide, an Inhibitor of the Human Heat Shock Response That Enhances Stress-induced Cell Death. J. Biol. Chem., 281: 9616 - 9622.

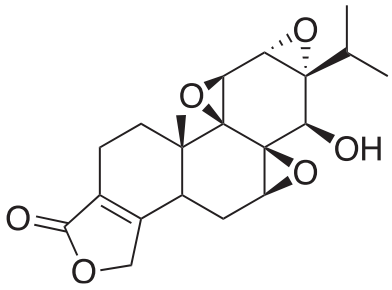
CHEMICAL PROPERTIES

CAS number: 38748-32-2

Formula: $C_{20}H_{24}O_6$

Molecular weight: 360.4

Solubility: DMSO, ethanol (10 mg/ml)



METHOD

Preparation of sterile stock solution (10 mM)

To obtain a 10 mM stock solution:

1. Add 280 µl DMSO to 1 mg Triptolide.
2. Vortex until complete solubilization.
3. Prepare aliquots of Triptolide and store at -20˚C.

Working concentration: 10-100 nM

RELATED PRODUCT

Product	Catalog Code
Bay11-7082 (IκB-α inhibitor)	tlrl-b82
Celastrol (NF-κB inhibitor)	ant-cls

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