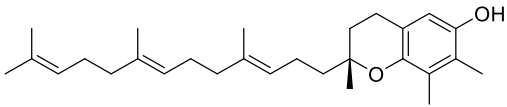


Product data sheet



MedKoo Cat#: 561439 Name: gamma-Tocotrienol CAS: 14101-61-2 Chemical Formula: C ₂₈ H ₄₂ O ₂ Exact Mass: 410.3185 Molecular Weight: 410.642		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

gamma-Tocotrienol is one of the four types of tocotrienol, a type of vitamin E. gamma-Tocotrienol is a radioprotector, antioxidant, and shows antitumor and antihypertensive effects in vivo.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	10.0	24.35
DMSO	55.0	133.94
Ethanol	10.0	24.35

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.44 mL	12.18 mL	24.35 mL
5 mM	0.49 mL	2.44 mL	4.87 mL
10 mM	0.24 mL	1.22 mL	2.44 mL
50 mM	0.05 mL	0.24 mL	0.49 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Ramdas P, Radhakrishnan AK, Abdu Sani AA, Kumari M, Anandha Rao JS, Abdul-Rahman PS. Advancing the Role of Gamma-Tocotrienol as Proteasomes Inhibitor: A Quantitative Proteomic Analysis of MDA-MB-231 Human Breast Cancer Cells. *Biomolecules*. 2019 Dec 21;10(1):19. doi: 10.3390/biom10010019. PMID: 31877708; PMCID: PMC7022772.
2. Ghanem P, Zouein A, Mohamad M, Hodroj MH, Haykal T, Abou Najem S, Naim HY, Rizk S. The Vitamin E Derivative Gamma Tocotrienol Promotes Anti-Tumor Effects in Acute Myeloid Leukemia Cell Lines. *Nutrients*. 2019 Nov 17;11(11):2808. doi: 10.3390/nu11112808. PMID: 31744219; PMCID: PMC6893610.

In vivo study

1. Garg S, Garg TK, Wise SY, Fatanmi OO, Miousse IR, Savenka AV, Basnakian AG, Singh VK, Hauer-Jensen M. Effects of Gamma-Tocotrienol on Intestinal Injury in a GI-Specific Acute Radiation Syndrome Model in Nonhuman Primate. *Int J Mol Sci*. 2022 Apr 22;23(9):4643. doi: 10.3390/ijms23094643. PMID: 35563033; PMCID: PMC9100017.
2. Radhakrishnan AK, Anandha Rao JS, Subramaniam S, Ramdas P. Gamma-tocotrienol modifies methylation of HOXA10, IRF4 and RORα genes in CD4+ T-lymphocytes: Evidence from a syngeneic mouse model of breast cancer. *Curr Res Immunol*. 2021 Oct 9;2:169-174. doi: 10.1016/j.crimmu.2021.10.001. PMID: 35492388; PMCID: PMC9040081.

Product data sheet



7. Bioactivity

Biological target:

γ -Tocotrienol is an active form of vitamin E.

In vitro activity

Treatment with increasing doses of γ -tocotrienol for 24 h reduced the proliferation of U937 and KG-1 cells in a dose-dependent manner with a half inhibitory concentration (IC₅₀) of 29.43 and 25.23 μ M, respectively. γ -tocotrienol also induced a dose and time-dependent decrease in the proliferation of both cell lines after 48 h of treatment with IC₅₀s of 22.47 and 24.01 μ M for U937 and KG-1 cells respectively (Figure 1).

Reference: Nutrients. 2019 Nov 17;11(11):2808. <https://pubmed.ncbi.nlm.nih.gov/31744219/>

In vivo activity

In γ T3-fed animal, there was significant ($p < 0.05$) changes in the DNA methylation pattern of four genes (*Gata3*, *Irf4*, *Nr4a3*, and *Rora*) out of the 22 genes in the DNA methylation array in tumour-induce mice compared to no tumour group (Fig. 3B).

Reference: Curr Res Immunol. 2021 Oct 9;2:169-174. <https://pubmed.ncbi.nlm.nih.gov/35492388/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.