PRODUCT INFORMATION



Terpinolene

Item No. 21712

CAS Registry No.:	586-62-9	
Formal Name:	1-methyl-4-(1-methylethylidene)-cyclohexene	
Synonyms:	4-Isopropylidene-1-Methylcyclohexene,	
	a-Terpinolene	
MF:	C ₁₀ H ₁₆	
FW:	136.2	
Purity:	≥85%	
Supplied as:	An oil	
Storage:	-20°C	
Stability:	≥4 years	
Information represents	the product specifications. Batch specific analytical results are provided on each certificate of analysis	s.

Laboratory Procedures

Terpinolene is supplied as an oil. A stock solution may be made by dissolving the terpinolene in the solvent of choice, which should be purged with an inert gas. Terpinolene is slightly soluble in chloroform and methanol.

Description

Terpinolene is a monoterpene found in the essential oils of various plants, including C. sativa, and has diverse biological activities including antiproliferative and antioxidant properties.¹⁻⁵ It inhibits expression of AKT1 in Jurkat and K562 cells by 95% when used at a concentration of 0.05% and inhibits the growth of K562 cells when used at a concentration of 0.01%.³ Terpinolene also inhibits the growth of HT-29, Hep-2, NCI-292, and HL-60 cells (IC₅₀s = 16.7, 13.7, 17.4, and 28.8 µg/ml, respectively).⁴ In cultured human blood cells, terpinolene (10-75 mg/L) increases total antioxidant capacity (TAC), but decreases cell viability when used at a concentration of $\geq 150 \text{ mg/L}.^5$

References

- 1. Ross, S.A. and ElSohly, M.A. The volatile oil composition of fresh and air-dried buds of Cannabis sativa. J. Nat. Prod. 59(1), 49-51 (1996).
- 2. Elzinga, S., Fischedick, J., Podkolinski, R., et al. Cannabinoids and terpenes as chemotaxonomic markers in cannabis. Nat. Prod. Chem. Res. 3(4), 181 (2015).
- 3. Okumura, N., Yoshida, H., Nishimura, Y., et al. Terpinolene, a component of herbal sage, downregulates AKT1 expression in K562 cells. Oncol. Lett. 3(2), 321-324 (2012).
- 4. Ramos, E.H., Moraes, M.M., Nerys, L.L., et al. Chemical composition, leishmanicidal and cytotoxic activities of the essential oils from Mangifera indica L. var. Rosa and Espada. Biomed. Res. Int. 2014:734946, (2014).
- 5. Turkez, H., Aydın, E., Geyikoglu, F., et al. Genotoxic and oxidative damage potentials in human lymphocytes after exposure to terpinolene in vitro. Cytotechnology 67(3), 409-418 (2015).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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