

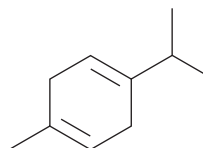
# PRODUCT INFORMATION



## $\gamma$ -Terpinene

Item No. 23722

CAS Registry No.: 99-85-4  
Formal Name: 1-methyl-4-(1-methylethyl)-1,4-cyclohexadiene  
Synonym: NSC 21448  
MF: C<sub>10</sub>H<sub>16</sub>  
FW: 136.2  
Purity:  $\geq 98\%$   
Supplied as: A neat oil  
Storage: -20°C  
Stability:  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

$\gamma$ -Terpinene is a monoterpene that has been found in various plants, including *C. sativa*, with diverse biological activities.<sup>1-6</sup> It scavenges 2,2'-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) and 2,2'-azinobis(3-ethylbenzothiazoline-6-sulfonate) (ABTS<sup>+</sup>) free radicals (IC<sub>50</sub>s = 2.8 and 30 mM, respectively) and reduces hemolysis induced by AAPH (Item No. 82235) in isolated human erythrocytes.<sup>2</sup>  $\gamma$ -Terpinene reduces the growth of *T. evansi* in a concentration-dependent manner.<sup>3</sup> It increases membrane permeability and decreases growth of *X. oryzae* bacteria.<sup>4</sup> *In vivo*,  $\gamma$ -terpinene (100 mg/kg) reduces Triton WR1339-induced increases in serum cholesterol and triglyceride levels in rats.<sup>5</sup> It reduces paw edema induced by histamine, bradykinin (Item No. 15539), carrageenan, and prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) in mice.<sup>6</sup> It also inhibits fluid extravasation in a mouse model of acetic acid microvascular permeability and reduces neutrophil migration in lung in a mouse model of acute lung injury.

### Reference

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4. Yoshitomi, K., Taniguchi, S., Tanaka, K., et al. Rice terpene synthase 24 (OsTPS24) encodes a jasmonate-responsive monoterpene synthase that produces an antibacterial  $\gamma$ -terpinene against rice pathogen. *J. Plant Physiol.* **191**(1), 120-126 (2016).
5. Takahashi, Y., Inaba, N., Kuwahara, S., et al. Effects of  $\gamma$ -terpinene on lipid concentrations in serum using Triton WR1339-treated rats. *Biosci. Biotechnol. Biochem.* **67**(11), 2448-2450 (2003).
6. Ramalho, T.R., Oliveira, M.T., Lima, A.L., et al. Gamma-terpinene modulates acute inflammatory response in mice. *Planta. Med.* **81**(14), 1248-1254 (2015).

#### WARNING

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

#### SAFETY 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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