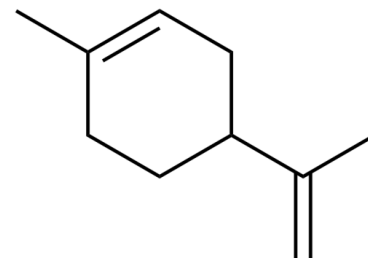


Data Sheet

Product Name:	Limonene
Cat. No.:	CS-0009072
CAS No.:	138-86-3
Molecular Formula:	C ₁₀ H ₁₆
Molecular Weight:	136.23
Target:	Bacterial; Reactive Oxygen Species
Pathway:	Anti-infection; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

Limonene is a monoterpene in citrus peel oil. A popular disinfectant and food preservative. Antimicrobial activities^[1]. Anti-proliferative activities^[2]. Antioxidant and anti-inflammatory effect^[3]. IC₅₀ & Target: Bacterial^[1] **In Vitro:** Acute toxicity to limonene is largely due to the common oxidation product limonene-hydroperoxide. The mutant protein AhpCL177Q 35 is able to alleviate this toxicity by reducing the hydroperoxide to a more benign compound^[1].

Limonene exerts anti-proliferative action on a lymphoma cell line without modifying normal lymphocyte viability^[2].

In Vivo: Limonene (50-100 mg/kg) exerts gastroprotection through local mucosal defense mechanisms, such as increasing the mucus production, modulation of the oxidative stress and inflammatory response and inhibition of Nf-kb expression^[3].

References:

[1]. Chubukov V, et al. Acute Limonene Toxicity in Escherichia coli Is Caused by Limonene Hydroperoxide and Alleviated by a Point Mutation in Alkyl Hydroperoxidase AhpC. Appl Environ Microbiol. 2015 Jul;81(14):4690-6.

[2]. Roberto D, et al. Antioxidant activity of limonene on normal murine lymphocytes: relation to H₂O₂ modulation and cell proliferation. Basic Clin Pharmacol Toxicol. 2010 Jan;106(1):38-44.

[3]. de Souza MC, et al. Gastroprotective effect of limonene in rats: Influence on oxidative stress, inflammation and gene expression. Phytomedicine. 2018 Sep 4;53:37-42.

CAIndexNames:

Cyclohexene, 1-methyl-4-(1-methylethenyl)-

SMILES:

C=C(C1CC=C(C)CC1)C

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA