LKT Laboratories, Inc.

Cafestol Palmitate

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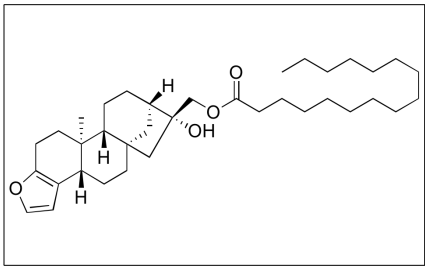
Product Information

Product ID C0022

CAS No. 81760-46-5

Chemical Name [3b,S-(3bα,5aß,7SS,8ß,10aα,10bß)]-3b,4,5,6,7,8,9,10- 10a,10b,11,12-Dodecahydro-7-hydroxy-10b-methyl- 5a,8-methano-5aH-cyclohepta [5,6]naphtho[2,1-b]furan-7-methanol palmitate

Synonym Cafesterol palmitate



Formula $C_{36}H_{58}O_4$

Formula Wt. 554.43

Melting Point 43°C

Purity ≥98%

Solubility Soluble in methanol, ethanol, ether. Insoluble in water.

Bulk quanitites available upon request

Product ID	Size
C0022	50 mg
C0022	100 mg
C0022	500 mg

Store Temp -20°C

Ship Temp Ambient

Description Cafestol is a diterpene initially found in brewed, unfiltered coffee that exhibits anti-angiogenic, anticancer, chemopreventive, neuromodulatory, anti-inflammatory, and hyperlipidemic activities. Cafestol inhibits proliferation, migration, and tube formation in vitro, potentially through decreasing phosphorylation of FAK and Akt. In renal carcinoma cells, cafestol induces G1 phase cell cycle arrest and apoptosis, decreases the mitochondrial membrane potential, increases activation of caspase 3, downregulates expression of Bcl-2, Bcl-cl, Mcl-1, and FLIP, suppresses Akt pathway signaling, and inhibits cellular proliferation. In other cellular models, cafestol decreases aflatoxin B1-induced DNA adduct formation and increases levels of glutathione-S-transferase. Additionally, cafestol activates Nrf2 and displays protective benefit in models of Parkinson's disease. In LPS-stimulated macrophages, this compound inhibits ERK2 and MEK1 and decreases production of COX-2 and prostaglandin E2 (PGE2). In vivo, cafestol upregulates expression of genes involved in cholesterol homeostasis by acting as an agonist at the farnesoid X receptor (FXR) and pregnane X receptor (PXR).

References

Wang S, Yoon YC, Sung MJ, et al. Antiangiogenic properties of cafestol, a coffee diterpene, in human umbilical vein endothelial cells. Biochem Biophys Res Commun. 2012 May 11;421(3):567-71. PMID: 22525673.

Choi MJ, Park EJ, Oh JH, et al. Cafestol, a coffee-specific diterpene, induces apoptosis in renal carcinoma Caki cells through down-regulation of anti-apoptotic proteins and Akt phosphorylation. Chem Biol Interact. 2011 Apr 25;190(2-3):102-8. PMID: 21334318.

Trinh K, Andrews L, Krause J, et al. Decaffeinated coffee and nicotine-free tobacco provide neuroprotection in Drosophila models of Parkinson's disease through an NRF2-dependent mechanism. J Neurosci. 2010 Apr 21;30(16):5525-32. PMID: 20410106.

Shen T, Lee J, Lee E, et al. Cafestol, a coffee-specific diterpene, is a novel extracellular signal-regulated kinase inhibitor with AP-1-targeted inhibition of prostaglandin E2 production in lipopolysaccharide-activated macrophages. Biol Pharm Bull. 2010;33 (1):128-32. PMID: 20045950.

Ricketts ML, Boekschoten MV, Kreeft AJ, et al. The cholesterol-raising factor from coffee beans, cafestol, as an agonist ligand for the farnesoid and pregnane X receptors. Mol Endocrinol. 2007 Jul;21(7):1603-16. PMID: 17456796.

Cavin C, Holzhäuser D, Constable A, et al. The coffee-specific diterpenes cafestol and kahweol protect against aflatoxin B1-induced genotoxicity through a dual mechanism. Carcinogenesis. 1998 Aug;19(8):1369-75. PMID: 9744531.