



LKT Laboratories, Inc.

Caffeine

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Product Information

Product ID C0221

CAS No. 58-08-2

Chemical Name 3,7-Dihydro-1,3,7-trimethyl-1H-purine-2,6-dione

Synonym Coffeine, Thein, Guanine, Methyltheobromine, No-Doz

Formula C₈H₁₀N₄O₂

Formula Wt. 194.19

Melting Point 238° C

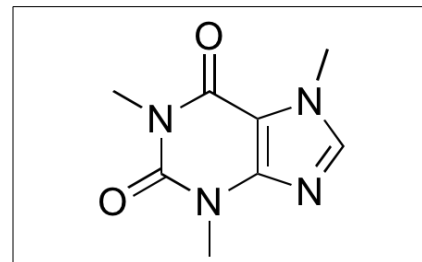
Purity ≥98%

Solubility Soluble in ethyl acetate or pyrrole. Slightly soluble in water (20 mg/mL), solubility is increased by adding dilute acid. Slightly soluble in ethanol.

Store Temp Ambient

Ship Temp Ambient

Description Caffeine is a xanthine alkaloid found in coffee, tea, and many other plant sources; it exhibits stimulant, bronchodilatory, anti-asthma, vasoconstrictive, anti-inflammatory, antioxidative, anti-aging, and anti-fibrotic activities. Caffeine activates adenosine receptors and inhibits phosphodiesterases (PDEs), increases levels of cAMP, activating PKA, and inhibiting the release of TNF-α and leukotrienes. In clinical settings, caffeine administration increases FEV1. Caffeine may decrease UV radiation-dependent skin damage, protecting against skin aging. Increases in caffeine consumption in human subjects are associated with decreases in risk for cardiovascular and neurological diseases. In animal models of fibrosis, caffeine decreases release of STGF, collagen I, TNF-α, IL-6, IL-1, and TGF-β1, preventing fibrosis.



Bulk quantities available upon request

Product ID	Size
C0221	10 g
C0221	50 g
C0221	100 g

References Qi H, Li S. Dose-response meta-analysis on coffee, tea and caffeine consumption with risk of Parkinson's disease. *Geriatr Gerontol Int.* 2014 Apr;14(2):430-9. PMID: 23879665.

Gordillo-Bastidas D, Ocegüera-Contreras E, Salazar-Montes A, et al. Nrf2 and Snail-1 in the prevention of experimental liver fibrosis by caffeine. *World J Gastroenterol.* 2013 Dec 21;19(47):9020-33. PMID: 24379627.

Herman A, Herman AP. Caffeine's mechanisms of action and its cosmetic use. *Skin Pharmacol Physiol.* 2013;26(1):8-14. PMID: 23075568.

Ribeiro JA, Sebastião AM. Caffeine and adenosine. *J Alzheimers Dis.* 2010;20 Suppl 1:S3-15. PMID: 20164566.

Welsh EJ, Bara A, Barley E, et al. Caffeine for asthma. *Cochrane Database Syst Rev.* 2010 Jan 20;(1):CD001112. PMID: 20091514.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.