LKT Laboratories, Inc.

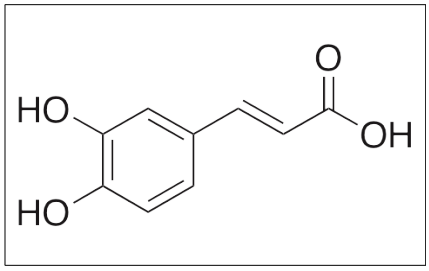
Caffeic Acid

Phone: 888-558-5227
651-644-8424
Fax: 888-558-7329
Email: getinfo@lktlabs.com
Web: lktlabs.com

Product Information

Product ID C0121
CAS No. 331-39-5
Chemical Name 3-(3,4-Dihydroxyphenyl)-2-propenoic acid

Synonym 3,4-Dihydroxycinnamic acid



Formula $C_9H_8O_4$
Formula Wt. 180.16
Melting Point 212-214°C(dec.)
Purity ≥98%
Solubility Sparingly soluble in hot water, PBS (0.6 mg/mL). Soluble in ethanol (25 mg/mL, warm), DMSO (40 mg/mL), DMF (7 mg/mL), ethyl acetate

Bulk quanitites available upon request

Product ID	Size
C0121	5 g
C0121	25 g

Store Temp Ambient
Ship Temp Ambient

Description Caffeic acid is a hydroxycinnamic acid found in coffee, argan oil, *Eucaplyptus*, *Salvinia*, and *Phellinus*; it exhibits antioxidative, anti-diabetic, antibiotic, anti-inflammatory, anti-metastatic, and anticancer activities. Caffeic acid inhibits activity of α-amylase and α-glucosidase. This compound also displays antibacterial efficacy, decreasing membrane stability and inhibiting proliferation of *Staphylococcus*. In vitro, caffeic acid increases levels of glutathione, glutathione peroxidase, and catalase; it also inhibits LPS-stimulated inflammation by decreasing activation of NF-κB and levels of IL-6, IL-8, TNF-α, and IL-1β. In lung adenocarcinoma cells, caffeic acid inhibits PMA-induced invasion and decreases activation of STAT3, AP-1, and NF-κB. Additionally, caffeic acid induces G1 phase cell cycle arrest and apoptosis, decreases mitochondrial membrane potential, and inhibits cellular proliferation in colon cancer cells.

References

Oboh G, Agunloye OM, Adefegha SA, et al. Caffeic and chlorogenic acids inhibit key enzymes linked to type 2 diabetes (in vitro): a comparative study. J Basic Clin Physiol Pharmacol. 2014 May 12. [Epub ahead of print]. PMID: 24825096.

Liu M, Song S, Li H, et al. The protective effect of caffeic acid against inflammation injury of primary bovine mammary epithelial cells induced by lipopolysaccharide. J Dairy Sci. 2014 May;97(5):2856-65. PMID: 24612802.

Luís Â, Silva F, Sousa S, et al. Antistaphylococcal and biofilm inhibitory activities of gallic, caffeic, and chlorogenic acids. Biofouling. 2014 Jan;30(1):69-79. PMID: 24228999.

Tsai CM, Yen GC, Sun FM, et al. Assessment of the anti-invasion potential and mechanism of select cinnamic acid derivatives on human lung adenocarcinoma cells. Mol Pharm. 2013 May 6;10(5):1890-900. PMID: 23560439.

Jaganathan SK. Growth inhibition by caffeic acid, one of the phenolic constituents of honey, in HCT 15 colon cancer cells. ScientificWorldJournal. 2012;2012:372345. PMID: 22649289.

Pluemsamran T, Onkoksoong T, Panich U. Caffeic acid and ferulic acid inhibit UVA-induced matrix metalloproteinase-1 through regulation of antioxidant defense system in keratinocyte HaCaT cells. Photochem Photobiol. 2012 Jul-Aug;88(4):961-8. PMID: 22360712.