Coffee Compounds

Cafestol (C0020) and **Kahweol (K0030)** are natural diterpenes found in coffee beans[1]. These compounds and their derivatives exhibit a variety of biological activities, including chemopreventive, anti-angiogenic, antioxidative, and anti-cancer properties.

Clinically, consumption of unfiltered coffee beverages is associated with a reduction in colon cancer prevalence[2]. In animal models of colon cancer, administration of **Cafestol Palmitate (C0021)** and **Kahweol Palmitate (K0032)** prevents the formation of DNA adducts by carcinogen PhIP; this may be a result of the ability of these compounds to increase expression of glutathione-S-transferase, a phase II detoxifying enzyme[3].

Cafestol and kahweol also exhibit anti-angiogenic and anti-inflammatory properties in many angiogenesis models. These compounds suppress tube formation and inhibit migration, invasion, and proliferation in endothelial cells[4-5]. Kahweol also inhibits expression of pro-inflammatory mediators COX-2 and MCP-1 in cellular models[5].

In other cellular models, kahweol inhibits differentiation of bone marrow-derived macrophages and monocytes into osteoclasts[6]. The inhibition of osteoclast development prevents bone resorption, improving bone strength and structure.

Also available:

C0021 Cafestol Acetate
C0025 Cafestol Eicosanate
C0027 Cafestol Linoleate
C0029 Cafestol Oleate
C0021 Cafestol Palmitate
C0033 Cafestol Stearate

K0031 Kahweol Acetate
K0034 Kahweol Eicosanate
K0036 Kahweol Linoleate
K0038 Kahweol Oleate
K0032 Kahweol Palmitate
K0040 Kahweol Stearate
And many others!

References:
1.Chartier A, Beaumesnil M, de Oliveira AL, et al. Talanta. 2013 Dec 15;117:102-11.
2. Baron JA, deVerdier MG, Ekbom A. Cancer Epidemiol Biomarkers Prev. 1994 Oct-Nov;3(7):565-70.
3. Huber WW, McDaniel LP, Kaderlik KR, et al. Mutat Res. 1997 May 12;376(1-2):115-22.
4. Cárdenas C, Quesada AR, Medina MÁ. et al. PLoS One. 2011;6(8):e23407. 5.
5. Wang S, Yoon YC, Sung MJ, et al. Biochem Biophys Res Commun. 2012 May 11;421(3):567-71.
6. Fumimoto R, Sakai E, Yamaguchi Y, et al. J Pharmacol Sci. 2012;118(4):479-86.