

PRODUCT INFORMATION

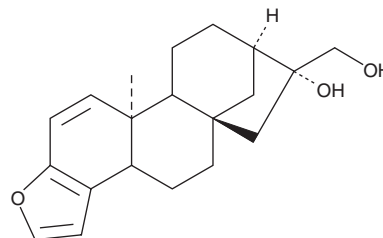


Kahweol

Item No. 14015

CAS Registry No.: 6894-43-5
Formal Name: 3bS,4,5,6,7R,8R,9,10,10aR,10bS-decahydro-7-hydroxy-10b-methyl-5aS,8-methano-5aH-cyclohepta[5,6]naphtho[2,1-b]furan-7-methanol

MF: C₂₀H₂₆O₃
FW: 314.4
Purity: ≥98%
UV/Vis.: λ_{max}: 289 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Kahweol is supplied as a crystalline solid. A stock solution may be made by dissolving the kahweol in the solvent of choice, which should be purged with an inert gas. Kahweol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Kahweol in ethanol and DMF is approximately 5 mg/ml and approximately 3 mg/ml in DMSO.

Kahweol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, kahweol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Kahweol has a solubility of approximately 0.02 mg/ml in a 1:50 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Kahweol is a natural diterpene that is isolated from coffee beans.¹ It increases glutathione S-transferase activity in the gut mucosa of mice and, with the diterpene cafestol, induces glutathione S-transferase expression in rat livers.^{1,2} Kahweol has anti-inflammatory effects in RAW macrophages, inhibiting LPS-induced nitric oxide and prostaglandin E₂ production (IC₅₀ = 54 and 23 μM, respectively).³ Kahweol also is antiangiogenic, blocking the proliferation of endothelial cells (IC₅₀ = 50 μM) and inhibiting endothelial migration, invasion, and tube formation.⁴ Kahweol is easily oxidized in the presence of air.¹

References

1. Lam, L.K.T., Sparnins, V.L., and Wattenberg, L.W. Isolation and identification of kahweol palmitate and cafestol palmitate as active constituents of green coffee beans that enhance glutathione S-transferase activity in the mouse. *Cancer Res.* **42(4)**, 1193-1198 (1982).
2. 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* **19(8)**, 1369-1375 (1998).
3. Shen, T., Park, Y.C., Kim, S.H., et al. Nuclear factor-κB/signal transducers and activators of transcription-1-mediated inflammatory responses in lipopolysaccharide-activated macrophages are a major inhibitory target of kahweol, a coffee diterpene. *Biol. Pharm. Bull.* **33(7)**, 1159-1164 (2010).
4. Cárdenas, C., Quesada, A.R., and Medina, M.A. Anti-angiogenic and anti-inflammatory properties of kahweol, a coffee diterpene. *PLoS One* **6(8)**, (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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