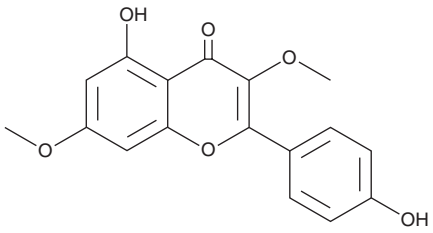
PRODUCT INFORMATION

Kumatakenin

Item No. 35514

CAS Registry No.:	3301-49-3
Formal Name:	5-hydroxy-2-(4-hydroxyphenyl)-3,7-dimethoxy-4H-1-benzopyran-4-one
Synonyms:	Jaranol, Kaempferol 3,7-O-dimethyl ether
MF:	$C_{17}H_{14}O_6$
FW:	314.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 267, 350 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Astragalus membranaceus*



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

Laboratory Procedures

Kumatakenin is supplied as a solid. A stock solution may be made by dissolving the kumatakenin in the solvent of choice, which should be purged with an inert gas. Kumatakenin is soluble in acetone, chloroform, dichloromethane, DMSO, and ethyl acetate.

Description

Kumatakenin is a flavonoid that has been found in *S. aromaticum* and has diverse biological activities.[1-3] It inhibits the growth of SKOV3 and A2780 ovarian cancer cells in a concentration-dependent manner.[1] It induces apoptosis and decreases the protein levels of the tumor-associated macrophage (TAM) recruitment factors MCP-1 and RANTES in SKOV3 cells when used at a concentration of 30 µM. Kumatakenin (10 µM) inhibits neutrophil elastase activity and inhibits antigen-induced RBL-2H3 mast cell degranulation (IC_{50} = 80.4 µM).[2] It is active against *S. aureus*, *E. coli*, *P. aeruginosa*, and *L. monocytogenes* (MICs = 64, 128, 128, and 512 µg/ml, respectively) and acts synergistically with ampicillin (Item No. 14417), gentamicin, or erythromycin (Item No. 16486) to reduce *L. monocytogenes* biofilm formation.[3]

References

1. Woo, J.-H., Ahn, J.-H., Jang, D.S., *et al.* Effect of kumatakenin isolated from cloves on the apoptosis of cancer cells and the alternative activation of tumor-associated macrophages. *J. Agric. Food Chem.* **65(36)**, 7893-7899 (2017).
2. Ebada, S.S., Al-Jawabri, N.A., Youssef, F.S., *et al.* Anti-inflammatory, antiallergic and COVID-19 protease inhibitory activities of phytochemicals from the Jordanian hawksbeard: Identification, structure–activity relationships, molecular modeling and impact on its folk medicinal uses. *RSC Adv.* **10(62)**, 38128-38141 (2020).
3. Zhang, X., Wang, L., Mu, H., *et al.* Synergistic antibacterial effects of *Buddleja albiflora* metabolites with antibiotics against *Listeria monocytogenes*. *Lett. Appl. Microbiol.* **68(1)**, 38-47 (2019).

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