

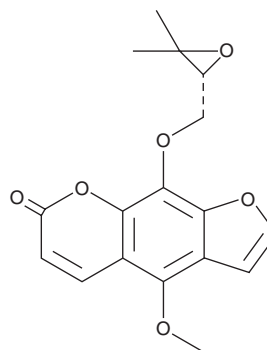
# PRODUCT INFORMATION



## Byakangelicol

Item No. 34571

CAS Registry No.: 26091-79-2  
Formal Name: 9-[[[(2R)-3,3-dimethyl-2-oxiranyl]methoxy]-4-methoxy-7H-furo[3,2-g][1]benzopyran-7-one  
MF:  $C_{17}H_{16}O_6$   
FW: 316.3  
Purity:  $\geq 98\%$   
UV/Vis.:  $\lambda_{max}$ : 223, 241, 249, 267, 312 nm  
Supplied as: A solid  
Storage:  $-20^{\circ}\text{C}$   
Stability:  $\geq 2$  years  
Item Origin: Plant/Unspecified sp.



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

### Laboratory Procedures

Byakangelicol is supplied as a solid. A stock solution may be made by dissolving the byakangelicol in the solvent of choice, which should be purged with an inert gas. Byakangelicol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of byakangelicol in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Byakangelicol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, byakangelicol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Byakangelicol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Byakangelicol is a furanocoumarin that has been found in *A. dahurica* and has diverse biological activities.<sup>1-4</sup> It inhibits acetylcholinesterase (AChE) and butyrylcholinesterase (BChE;  $IC_{50}$ s = 46.3 and 45.2  $\mu\text{M}$ , respectively).<sup>1</sup> Byakangelicol inhibits LPS-induced production of nitric oxide (NO) in RAW 264.7 cells ( $IC_{50}$  = 16.9  $\mu\text{g/ml}$ ) and IL-1 $\beta$ -induced COX-2 activity and prostaglandin  $E_2$  ( $PGE_2$ ) release in A549 cells when used at concentrations ranging from 10 to 50  $\mu\text{M}$ .<sup>2,3</sup> It also reduces cytotoxicity induced by tacrine (Item No. 70240) in HepG2 cells ( $EC_{50}$  = 36.6  $\mu\text{M}$ ).<sup>4</sup>

### References

1. Seo, W.D., Kim, J.Y., Ryu, H.W., *et al.* Identification and characterisation of coumarins from the roots of *Angelica dahurica* and their inhibitory effects against cholinesterase. *J. Funct. Foods* **5**(3), 1421-1431 (2013).
2. Wang, C.-C., Lai, J.-E., Chen, L.-G., *et al.* Inducible nitric oxide synthase inhibitors of Chinese herbs. Part 2: Naturally occurring furanocoumarins. *Bioorg. Med. Chem.* **8**(12), 2701-2707 (2000).
3. Lin, C.-H., Chang, C.-W., Wang, C.-C., *et al.* Byakangelicol, isolated from *Angelica dahurica*, inhibits both the activity and induction of cyclooxygenase-2 in human pulmonary epithelial cells. *J. Pharm. Pharmacol.* **54**(9), 1271-1278 (2002).
4. Oh, H., Lee, H.-S., Kim, T., *et al.* Furocoumarins from *Angelica dahurica* with hepatoprotective activity on tacrine-induced cytotoxicity in Hep G2 cells. *Planta Med.* **68**(5), 463-464 (2002).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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