

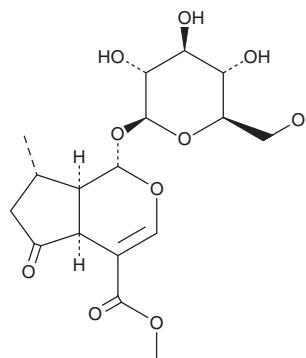
# PRODUCT INFORMATION



## Verbenalin

Item No. 34663

**CAS Registry No.:** 548-37-8  
**Formal Name:** (1S,4aS,7S,7aR)-1-(β-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-7-methyl-5-oxo-cyclopenta[c]pyran-4-carboxylic acid, methyl ester  
**Synonyms:** Cornin, NSC 118055  
**MF:** C<sub>17</sub>H<sub>24</sub>O<sub>10</sub>  
**FW:** 388.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 236 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Cornus officinalis*



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

### Laboratory Procedures

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of verbenalin can be prepared by directly dissolving the solid in aqueous buffers. The solubility of verbenalin in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Verbenalin is an iridoid glucoside that has been found in *V. officinalis* and has diverse biological activities.<sup>1-3</sup> It inhibits the activities of COX-1 and COX-2 by 37 and 48%, respectively, when used at a concentration of 258 μM.<sup>2</sup> Verbenalin (129 μM) inhibits proliferation of AGS gastric, SF-268 CNS, HCT116 colon, NCI H460 lung, and MCF-7 breast cancer cells. It reduces carrageenan-induced paw edema, as well as ear edema induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014), in mice.<sup>3</sup> Verbenalin (5 and 10 mg/kg) reduces increases in malondialdehyde (MDA) levels and the production of reactive oxygen species (ROS) in brain mitochondria isolated from, as well as decreases infarct volume and neurological deficits in, a rat model of ischemia-reperfusion injury induced by middle cerebral artery occlusion (MCAO).<sup>1</sup>

### References

1. Jiang, W.-L., Zhang, S.-P., Zhu, H.-B., *et al.* Cornin ameliorates cerebral infarction in rats by antioxidant action and stabilization of mitochondrial function. *Phytother. Res.* **24**(4), 547-552 (2010).
2. Vareed, S.K., Schutzki, R.E., and Nair, M.G. Lipid peroxidation, cyclooxygenase enzyme and tumor cell proliferation inhibitory compounds in *Cornus kousa* fruits. *Phytomedicine* **14**(10), 706-709 (2007).
3. Recio, M.d.C., Giner, R.M., Máñez, S., *et al.* Structural considerations on the iridoids as anti-inflammatory agents. *Planta Med.* **60**(3), 232-234 (1994).

#### 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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