

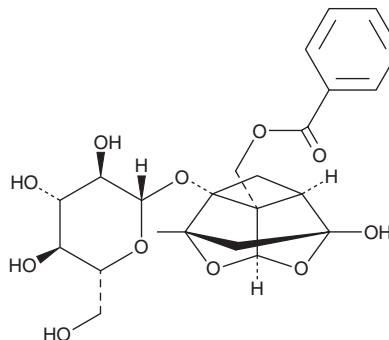
# PRODUCT INFORMATION



## Paeoniflorin

Item No. 19861

**CAS Registry No.:** 23180-57-6  
**Formal Name:** (1aR,2S,3aR,5R,5aR,5bS)-5b-  
[(benzyloxy)methyl]tetrahydro-5-  
hydroxy-2-methyl-2,5-methano-  
1H-3,4-dioxacyclobuta[cd]  
pentalen-1a(2H)-yl β-D-  
glucopyranoside  
**Synonym:** NSC 178886  
**MF:** C<sub>23</sub>H<sub>28</sub>O<sub>11</sub>  
**FW:** 480.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 230, 274 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

Paeoniflorin is supplied as a crystalline solid. A stock solution may be made by dissolving the paeoniflorin in the solvent of choice, which should be purged with an inert gas. Paeoniflorin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of paeoniflorin 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 paeoniflorin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of paeoniflorin in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Paeoniflorin is a monoterpenoid glycoside first isolated from the roots of peony. It has diverse cellular actions, including modulating NMDA and TRPV1 receptors.<sup>1,2</sup> Paeoniflorin is reported to inhibit testosterone synthesis and stimulate aromatase activity.<sup>3</sup> It also reduces inflammatory signaling by inhibiting p38 MAP kinase and blocks pancreatic cancer cell apoptosis by suppressing MMP-9 and ERK signaling.<sup>4-6</sup> Presumably through some of these actions, paeoniflorin has analgesic and anti-inflammatory actions in mice.

### References

1. Chen, Y.-F., Lee, M.-M., Fang, H.-L., et al. *BMC Complement. Altern. Med.* **16**(1), (2016).
2. Han, F., Zhou, D., Yin, X., et al. *Cell Biosci.* **6**:37 (2016).
3. Takeuchi, T., Nishii, O., Okamura, T., et al. *Amer. J. Chin. Med.* **19**(1), 73-78 (1991).
4. Wang, P., Wang, W., Shi, Q., et al. *Mol. Med. Rep.* **14**(2), 1123-1131 (2016).
5. Yang, N., Cui, H., Han, F., et al. *Oncol. Lett.* **12**(2), 1471-1476 (2016).
6. Zhou, J., Wang, L., Wang, J., et al. *Evid. Based Complement. Alternat. Med.* **2016**:8082753 (2016).

#### 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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