PRODUCT INFORMATION

Paeoniflorin
Item No. 19861

CAS Registry No.: 23180-57-6
Formal Name: (1aR,2S,3aR,5R,5aR,5bS)-5b-[(benzoyloxy)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: C23H28O11
FW: 480.5
Purity: ≥98%
UV/Vis.: \( \lambda_{\text{max}} \): 230, 274 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Paeoniflorin is supplied as a crystalline solid. A stock solution may be made by dissolving the paeoniflorin in the solvent of choice. Paeoniflorin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. 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 monoterpenes glycoside first isolated from the roots of peony. It has diverse cellular actions, including modulating NMDA and TRPV1 receptors.\(^1,2\) Paeoniflorin is reported to inhibit testosterone synthesis and stimulate aromatase activity.\(^3\) It also reduces inflammatory signaling by inhibiting p38 MAP kinase and blocks pancreatic cancer cell apoptosis by suppressing MMP-9 and ERK signaling.\(^4-6\) Presumably through some of these actions, paeoniflorin has analgesic and anti-inflammatory actions in mice.

References