PRODUCT INFORMATION

Piperafizine A
Item No. 19449

CAS Registry No.: 130603-59-7
Formal Name: 1-methyl-3Z,6Z-bis(phenylmethylene)-2,5-piperazinedione
MF: C19H16N2O2
FW: 304.3
Purity: ≥99%
Supplied as: A solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Piperafizine A is supplied as a solid. A stock solution may be made by dissolving the piperafizine A in the solvent of choice. Piperafizine A is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide, which should be purged with an inert gas.

Piperafizine A is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Piperafizine A is a natural methylated diketopiperazine first isolated from an actinomycete, Streptoverticillium.1 It potentiates the cytotoxicity of vincristine (Item No. 11764), an anti-cancer alkaloid known to be exported from cells by P-glycoprotein.1,2 Piperafizine A directs the intracellular accumulation of vincristine in cancer cells to a similar degree as verapamil (Item No. 14288), a P-glycoprotein inhibitor.3,4 The effects of piperafizine A on vincristine accumulation in cancer cells is dose-dependent over a range of 1 to 20 µg/ml.3

References