**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:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years

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

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**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, which should be purged with an inert gas. Piperafizine A is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Piperafizine A is slightly 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.

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**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.\(^3\)

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**References**