

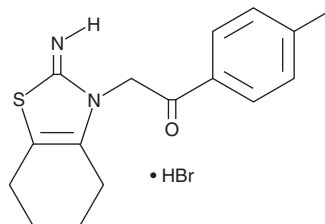
# PRODUCT INFORMATION



## Pifithrin- $\alpha$

Item No. 13326

**CAS Registry No.:** 63208-82-2  
**Formal Name:** 1-(4-methylphenyl)-2-(4,5,6,7-tetrahydro-2-imino-3(2H)-benzothiazolyl)-ethanone, monohydrobromide  
**Synonym:** PFT- $\alpha$   
**MF:** C<sub>16</sub>H<sub>18</sub>N<sub>2</sub>OS • HBr  
**FW:** 367.3  
**Purity:**  $\geq$ 95%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 259 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

Pifithrin- $\alpha$  is supplied as a crystalline solid. A stock solution may be made by dissolving the pifithrin- $\alpha$  in the solvent of choice, which should be purged with an inert gas. Pifithrin- $\alpha$  is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of pifithrin- $\alpha$  in these solvents is approximately 1 mg/ml.

Pifithrin- $\alpha$  is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pifithrin- $\alpha$  should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pifithrin- $\alpha$  has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Pifithrin- $\alpha$  is an inactivator of p53 that blocks p53-dependent transcriptional activation and apoptosis.<sup>1</sup> It prevents p53-mediated apoptosis induced by cytotoxic compounds in C8 cells at 10  $\mu$ M<sup>1</sup> and in human umbilical vein endothelial cells at 30  $\mu$ M.<sup>2</sup> Pifithrin- $\alpha$  can also protect cells from DNA damage-induced apoptosis by a p53-independent mechanism that might involve cyclin D1.<sup>3</sup>

### References

1. Komarov, P.G., Komarova, E.A., Kondratov, R.V., *et al.* A chemical inhibitor of p53 that protects mice from the side effects of cancer therapy. *Science* **285**(5434), 1733-1737 (1999).
2. Lorenzo, E., Ruiz-Ruiz, C., Quesada, A.J., *et al.* Doxorubicin induces apoptosis and CD95 gene expression in human primary endothelial cells through a p53-dependent mechanism. *J. Biol. Chem.* **277**(17), 10883-10892 (2002).
3. Sohn, D., Graupner, V., Neise, D., *et al.* Pifithrin- $\alpha$  protects against DNA damage-induced apoptosis downstream of mitochondria independent of p53. *Cell Death Differ.* **16**, 869-878 (2009).

#### 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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