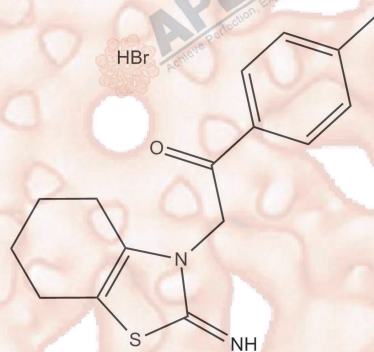


Pifithrin- α (PFT α)

Cat. No.:	A4206
CAS No.:	63208-82-2
Formula:	C ₁₆ H ₁₈ N ₂ O ₂ ·HBr
M.Wt:	367.3
Synonyms:	
Target:	Apoptosis
Pathway:	p53
Storage:	Store at -20°C



Solvent & Solubility

≥ 17.45 mg/mL in DMSO, ≥ 7.12 mg/mL in EtOH with ultrasonic and warming, insoluble in H₂O

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass		
		1mg	5mg	10mg
	1 mM	2.7226 mL	13.6129 mL	27.2257 mL
	5 mM	0.5445 mL	2.7226 mL	5.4451 mL
	10 mM	0.2723 mL	1.3613 mL	2.7226 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

p53 inhibitor

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line:

Murine embryonic stem (ES) cells

Preparation method:

The solubility of this compound in DMSO is >17.45mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions:

10 μ M and 20 μ M; 24 or 48 h

	Applications:	In murine ES cells, pifithrin- α significantly reduced the number and colony size of the ES cells in a dose dependent way. In ES cells seeded at low density in the presence of LIF, pifithrin- α significantly reduced the number of formed secondary ES cell colonies.
In Vivo	Animal experiment	
	Animal models:	Balb/c and C57BL6 mice treated with whole-body gamma irradiation
	Dosage form:	2.2 mg/kg; i.p. injection
	Applications:	In Balb/c and C57BL6 mice treated with whole-body gamma irradiation, pifithrin- α completely rescued mice of both strains from 60% killing doses of gamma irradiation (8 Gy for C57BL and 6 Gy for Balb/c). pifithrin- α did not protect p53-null mice from lethal irradiation, suggesting that pifithrin- α acted through a p53-dependent way.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

- Xie YL, Zhang B, Jing L. "MiR-125b blocks Bax/Cytochrome C/Caspase-3 apoptotic signaling pathway in rat models of cerebral ischemia-reperfusion injury bytargeting p53." *Neurol Res.* 2018 Jun 29;1-10.PMID:29956588
- Guo XB, Deng X, et al. "Hematopoietic Substrate-1-Associated Protein X-1Regulates the Proliferation and Apoptosis of Endothelial Progenitor Cells Through Akt Pathway Modulation." *Stem Cells.* 2018 Mar;36(3):406-419.PMID:29139175

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References

- [1] Abdelalim EM, Tooyama I. The p53 inhibitor, pifithrin- α , suppresses self-renewal of embryonic stem cells. *Biochem Biophys Res Commun.* 2012 Apr 13;420(3):605-10.
- [2] Komarov PG, Komarova EA, Kondratov RV, Christov-Tselkov K, Coon JS, Chernov MV, Gudkov AV. A chemical inhibitor of p53 that protects mice from the side effects of cancer therapy. *Science.* 1999 Sep 10;285(5434):1733-7.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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