Cyclic Pifithrin-Alpha is a cell permeable and reversible inhibitor of p53-mediated apoptosis and p53-dependent gene transcription. It is a more stable and less cytotoxic analog of the non-cyclic form of Pifithrin-α, which is rapidly cyclized under normal cell culture conditions. Cyclic Pifithrin-α has also been reported to activate the aryl hydrocarbon receptor (Fernandez-Cruz et al.; Gary and Jensen; Komarov et al.). This product is supplied as a hydrobromide salt of the molecule.

**Molecular Name:** Cyclic Pifithrin-Alpha (Hydrobromide)

**Alternative Names:** Cyclic PFT-α; PFT-β; Pifithrin-β

**CAS Number:** 511296-88-1

**Chemical Formula:** C₁₆H₁₄N₂S · HBr

**Molecular Weight:** 349.3 g/mol

**Purity:** ≥ 95%

**Chemical Name:** 5,6,7,8-tetrahydro-2-(4-methylphenyl)imidazo[2,1-b]benzothiazole, monohydrobromide

**Structure:**

```
N   N
S
HBr
```

**Physical Appearance:** A crystalline solid

**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.

**Solubility:**
- DMSO ≤ 1.5 mM
- Absolute ethanol ≤ 1.5 mM

For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 2.86 mL of fresh DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

**Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.**
Published Applications

MAINTENANCE AND SELF-RENEWAL
- Reduces UV-induced apoptosis of mouse embryonic stem cells (Qin et al.).
- Increases the numbers of mouse hematopoietic stem and progenitor cells in vivo and in vitro, also decreases the radiation-induced death of these cells (Leonova et al.).

REPROGRAMMING
- Increases efficiency of reprogramming mouse embryonic fibroblasts to induced pluripotent stem cells (Liao et al.).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.