Pifithrin-α, p-Nitro, Cyclic

Cat. No.: HY-123076

CAS No.: 60477-38-5

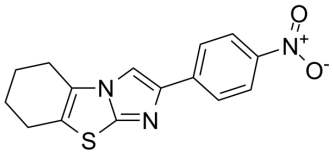
Molecular Formula: $C_{15}H_{13}N_3O_2S$

Molecular Weight: 299.35

Target: MDM-2/p53

Pathway: Apoptosis

Storage: -20°C, stored under nitrogen
* In solvent : -80°C, 2 years; -20°C, 1 year (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMF : 12.5 mg/mL (41.76 mM; Need ultrasonic)
DMSO : 5 mg/mL (16.70 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3406 mL	16.7029 mL	33.4057 mL
5 mM	0.6681 mL	3.3406 mL	6.6811 mL
10 mM	0.3341 mL	1.6703 mL	3.3406 mL

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

BIOLOGICAL ACTIVITY

Description

Pifithrin-α, p-Nitro, Cyclic (PFN-α) is cell-permeable and active-form p53 inhibitor. Pifithrin-α, p-Nitro, Cyclic is one order magnitude more active than Pifithrin-α in protecting cortical neurons exposed to Etoposide (ED_{50}=30 nM). Pifithrin-α, p-Nitro, Cyclic behaves as a p53 posttranscriptional activity inhibitor. Pifithrin-α, p-Nitro, Cyclic do not prevent p53 phosphorylation on the S15 residue[1][2].

In Vitro

Pifithrin-α, p-Nitro, Cyclic (PFN-α) efficiently blocks p53-triggered cell death and p21/WAF1 expression in cortical neurons exposed to etoposide at concentrations one order magnitude lower than that in PFT-α[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Intraocular injection of pifithrin-α slightly increases survival of retinal ganglion cell (RGC) at the concentration of 6 μM but not at 0.06 μM. Pifithrin-α, p-Nitro, Cyclic (PFN-α) is not effective in vivo, even at 6 μM[1].
Pifithrin-α, p-Nitro, Cyclic shows the half-life ($t_{1/2}$) of 6 hours (when incubated in biological conditions)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Antioxidants (Basel). 2023 Aug 22, 12(9), 1657.
- Biomolecules. 2023, 13(2), 392.
- FASEB J. 2022 Dec;36(12):e22672.

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REFERENCES

[1]. Pietrancosta N, et al. Imino-tetrahydro-benzothiazole derivatives as p53 inhibitors: discovery of a highly potent in vivo inhibitor and its action mechanism. J Med Chem. 2006 Jun 15;49(12):3645-52.

[2]. Dinca EB, et al. p53 Small-molecule inhibitor enhances temozolomide cytotoxic activity against intracranial glioblastoma xenografts. Cancer Res. 2008 Dec 15;68(24):10034-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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