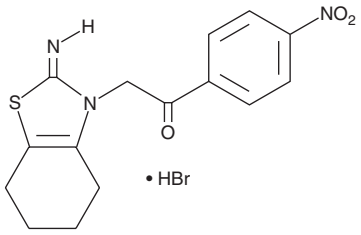
PRODUCT INFORMATION

p-nitro-Pifithrin-α

Item No. 16209

CAS Registry No.: 389850-21-9
Formal Name: 1-(4-nitrophenyl)-2-(4,5,6,7-tetrahydro-2-imino-3(2H)-benzothiazolyl)-ethanone, monohydrobromide
Synonym: *p*-nitro-PFT-α
MF: $C_{15}H_{15}N_3O_3S \bullet HBr$
FW: 398.3
Purity: ≥95%
UV/Vis.: λ_{max}: 263 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

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

p-nitro-Pifithrin-α is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, *p*-nitro-pifithrin-α should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. *p*-nitro-Pifithrin-α 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-α (Item No. 13326) is an inactivator of p53 that blocks p53-dependent transcriptional activation and apoptosis.[1] *p*-nitro-Pifithrin-α is a cell-permeable analog of pifithrin-α.[2] It blocks p53-mediated expression of p21/WAF1 and apoptosis in cortical neurons ten-fold more potently than pifithrin-α.[2] *p*-nitro-Pifithrin-α, at 10 µM, suppresses p53-mediated TGF-β1 expression in human proximal tubular cells and attenuates steatosis and liver injury in mice fed a high-fat diet.[3,4] It is slowly converted into a more potent cyclized form, *p*-nitro cyclic pifithrin-α, when incubated in biological media ($t_{½}$ = 8 h).[2]

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. Pietrancosta, N., Moumen, A., Dono, R., *et al.* Imino-tetrahydro-benzothiazole derivatives as p53 inhibitors: Discovery of a highly potent in vivo inhibitor and its action mechanism. *J. Med. Chem.* **49(12)**, 3645-3652 (2006).
3. Shimizu, H., Yisireyili, M., Nishijima, F., *et al.* Indoxyl sulfate enhances p53-TGF-β_1-Smad3 pathway in proximal tubular cells. *Am. J. Nephrol.* **37(2)**, 97-103 (2013).
4. Derdak, Z., Villegas, K.A., Harb, R., *et al.* Inhibition of p53 attenuates steatosis and liver injury in a mouse model of non-alcoholic fatty liver disease. *J. Hepatol.* **58(4)**, 785-791 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM