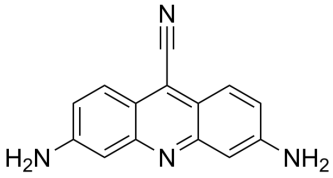
CTX1

Cat. No.:	HY-U00442
CAS No.:	501935-96-2
Molecular Formula:	$C_{14}H_{10}N_4$
Molecular Weight:	234.26
Target:	MDM-2/p53; E1/E2/E3 Enzyme
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	CTX1 is a p53 activator that overcomes HdmX-mediated p53 repression. CTX1 exhibits potent anti-cancer activity in a mouse acute myeloid leukemia (AML) model system[1].
IC_{50} & Target	p53[1]
In Vitro	CTX1 binds directly to HdmX to prevent p53-HdmX complex formation, resulting in the rapidly induction of p53 in a DNA damage-independent manner[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	CTX1 ((30 mg/kg; i.p.; five days a week; for 3 weeks) significantly enhances the survival of mice in AML model system[1]. CTX1 exhibited significant anti-cancer activity alone as well as in combination with nutlin-3[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	Exponentially growing OCI cells cultures are treated with 3 μM CTX1, 8 μM Nutlin and or 15 μM RO-5963 for 4.5 hrs. Whole-cell extracts are generated using modified RIPA lysis buffer 25 mM Tris (pH 8.0), 100 mM NaCl, 0.5 mM EDTA, 0.50% NP-40 and complete protease mixture tablet. Protein extracts (~750 μg) are precleared and immune precipitation is performed using a kit according to the manufacturer's protocol. For the immunoprecipitation, mouse monoclonal anti-p53 and rabbit polyclonal anti-HDMX are used. Immune complexes are then collected, proteins are eluted and subjected to Western blotting with the indicated antibodies[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	6 week old female NOD/SCID/IL2Rγ$^{-/-}$ mice are injected into the tail vein with 5×10^6 cells primary human AML cells (n=5 per group). Drug treatment is started 2 days after tumor cell injection. Nutlin-3 is given by oral gavage (200 mg/kg) and CTX1 is injected i.p. (30 mg/kg) five days a week for 3 weeks. Flow cytometry is performed on bone marrow cells isolated from the mouse femur using a human specific CD45PE antibody using a cytometer to confirm AML infiltration into the bone marrow [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Karan G, et al. Identification of a Small Molecule That Overcomes HdmX-Mediated Suppression of p53. Mol Cancer Ther. 2016 Apr;15(4):574-582.

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