3,6-DMAD hydrochloride

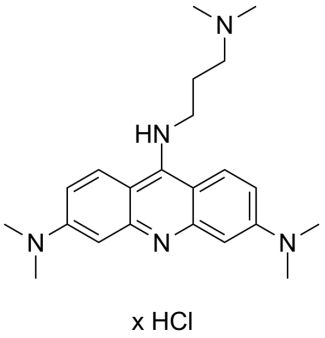
Cat. No.: HY-U00460

Molecular Formula: $C_{22}H_{31}N_5$

Target: IRE1

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description

3,6-DMAD hydrochloride, an acridine derivative, is a potent IRE1α-XBP1s pathway inhibitor. 3,6-DMAD hydrochloride promotes IL-6 secretion via the IRE1α-XBP1s pathway. 3,6-DMAD hydrochloride inhibits IRE1α oligomerization and endoribonuclease (RNase) activity. 3,6-DMAD hydrochloride can be used for research of cancer[1][2].

In Vitro

3,6-DMAD hydrochloride (0-6 μM; 24 h; RPMI 8226 and MM1.R human MM cells) has cytotoxicity against MM cell lines[1].
3,6-DMAD hydrochloride (0-30 μM; 14 h; HT1080 cells treated with Tg (0.3 μM)) inhibits XBP1 splicing (XBP1s) in a dose dependent manner[1].
3,6-DMAD hydrochloride (0.1-500 μM; 14 h; HT1080 cells treated with Tg (0.3 μM)) inhibits IRE1α endonuclease activity[1].
3,6-DMAD hydrochloride (1-60 μM; 2 h; HEK293 cells) inhibits IRE1α oligomerization and IRE1α-GFP foci formation[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	RPMI 8226 and MM1.R human MM cells
Concentration:	0, 0.5, 1, 2, 3, 4, 5 and 6 μM
Incubation Time:	24 hours
Result:	Inhibited cell survival rate in a dose dependent manner.

Western Blot Analysis[1]

Cell Line:	HT1080 cells treated with Tg (0.3 μM)
Concentration:	0, 5, 10 and 30 μM
Incubation Time:	14 hours
Result:	Showed XBP1s inhibition at as low as 0.5 μM.

In Vivo

3,6-DMAD hydrochloride (10 mg/kg; i.p.; three times every 12 hours, for 84 hours; NOD Scid mice with RPMI 8226 xenograft) has inhibition of XBP1 splicing in vivo[1].

3,6-DMAD hydrochloride (10 mg/kg; 24 h; i.p.; every 48 hours, for 12 days; NOD Scid mice with RPMI 8226 xenograft) suppresses multiple myeloma xenograft growth in vivo[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	NOD Scid mice (4-6 weeks) with RPMI 8226 xenograft[1]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection; three times every 12 hours, for 84 hours
Result:	Inhibited XBP1-luciferase activity in NOD Scid mice with RPMI 8226 xenograft.

Animal Model:	NOD Scid mice (4-6 weeks) with RPMI 8226 xenograft[1]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection; every 48 hours, for 12 days
Result:	Inhibited tumor growth in NOD Scid mice with RPMI 8226 xenograft.

REFERENCES

[1]. Jiang D, et, al. Acridine Derivatives as Inhibitors of the IRE1α-XBP1 Pathway Are Cytotoxic to Human Multiple Myeloma. Mol Cancer Ther. 2016 Sep;15(9):2055-65.

[2]. De SY, et, al. SHP-2 specific deletion in macrophages accelerates pathological cardiac hypertrophy through promoting IRE1α-XBP1s pathway regulated by IL-6 secretion. Research Article. 2022 May 3.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA