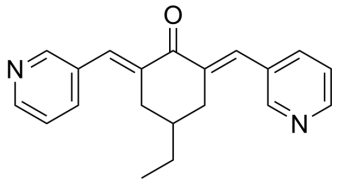
MCB-613

Cat. No.:	HY-19625
CAS No.:	1162656-22-5
Molecular Formula:	$C_{20}H_{20}N_2O$
Molecular Weight:	304.39
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (164.26 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2853 mL	16.4263 mL	32.8526 mL
5 mM	0.6571 mL	3.2853 mL	6.5705 mL
10 mM	0.3285 mL	1.6426 mL	3.2853 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MCB-613 is a potent Steroid receptor coactivator SRC small molecule 'stimulator' (SMS), super-stimulates SRCs' transcriptional activity.MCB-613 increases SRCs' interactions with other coactivators and markedly induces ER stress coupled to the generation of reactive oxygen species (ROS).MCB-613 is a SMS that target oncogenes can be exploited as anti-cancer agents by over-stimulating the SRC oncogenic program[1].

In Vitro

MCB-613 (6-8 μM; 24 hours) activates endogenous MMP13 mRNA expression in MDA-MB-231 cells[1].
MCB-613 (2-10 μM; 4 hours) leads to proteasome dysfunction and ER stress, the induction of the markers for unfolded

protein response (UPR), including the phosphorylation of eIF2α and IRE1α as well as the induction of ATF4 protein expression[1].
MCB-613 (0-7 μM; 4 hours) affects SRC-3 KO and WT HeLa cell viability, SRC-3 WT HeLa cell is more affected by MCB-613 compared with KO cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	MDA-MB-231 cells
Concentration:	6 μM; 8 μM
Incubation Time:	24 hours
Result:	Increased MMP13 mRNA expression.

Western Blot Analysis[1]

Cell Line:	HeLa cells
Concentration:	2 μM; 4 μM; 6 μM; 8 μM; 10 μM
Incubation Time:	24 hours
Result:	Induced the p-eIF2α, p-IRE1α, and ATF-4 protein expression.

Cell Viability Assay[1]

Cell Line:	SRC-3 KO and WT HeLa cells
Concentration:	3 μM; 4 μM; 5 μM; 6 μM; 7 μM
Incubation Time:	24 hours
Result:	Decreased SRC-3 KO and WT HeLa cell viability.

In Vivo

MCB-613 (intravenous injection; 20 mg/kg; 3 times/week; 7 weeks) significantly and dramatically stalls the growth of the tumor compared with the control group and causes no obvious animal toxicity[1]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MCF-7 breast cancer mouse xenograft model (athymic nude mice by injecting MCF-7 cells into mammary fat pads)[1]
Dosage:	20 mg/kg
Administration:	Intravenous injection; 20 mg/kg; 3 times/week; 7 weeks
Result:	Inhibited tumor growth in vivo.

REFERENCES

[1]. Wang L, et al. Characterization of a Steroid Receptor Coactivator Small Molecule Stimulator that Overstimulates Cancer Cells and Leads to Cell Stress and Death. Cancer Cell. 2015 Aug 10;28(2):240-52.

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

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