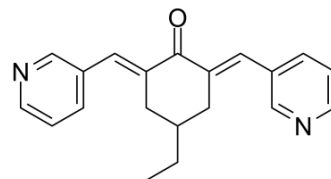


## MCB-613

<b>Cat. No.:</b>	HY-19625		
<b>CAS No.:</b>	1162656-22-5		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>20</sub> N <sub>2</sub> O		
<b>Molecular Weight:</b>	304.39		
<b>Target:</b>	Others		
<b>Pathway:</b>	Others		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (164.26 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	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.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	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 <sup>[1]</sup> .
<b>In Vitro</b>	MCB-613 (6-8 μM; 24 hours) activates endogenous MMP13 mRNA expression in MDA-MB-231 cells <sup>[1]</sup> . 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 eIF2 $\alpha$  and IRE1 $\alpha$  as well as the induction of ATF4 protein expression<sup>[1]</sup>.

MCB-613 (0-7  $\mu$ M; 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<sup>[1]</sup>.

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

RT-PCR<sup>[1]</sup>

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

Western Blot Analysis<sup>[1]</sup>

Cell Line:	HeLa cells
Concentration:	2 $\mu$ M; 4 $\mu$ M; 6 $\mu$ M; 8 $\mu$ M; 10 $\mu$ M
Incubation Time:	24 hours
Result:	Induced the p-eIF2 $\alpha$ , p-IRE1 $\alpha$ , and ATF-4 protein expression.

Cell Viability Assay<sup>[1]</sup>

Cell Line:	SRC-3 KO and WT HeLa cells
Concentration:	3 $\mu$ M; 4 $\mu$ M; 5 $\mu$ M; 6 $\mu$ M; 7 $\mu$ M
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<sup>[1]</sup>

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) <sup>[1]</sup>
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.

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

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