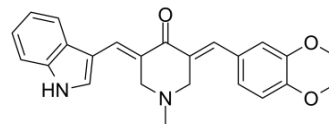


## CA-5f

Cat. No.:	HY-112698		
CAS No.:	1370032-19-1		
Molecular Formula:	C <sub>24</sub> H <sub>24</sub> N <sub>2</sub> O <sub>3</sub>		
Molecular Weight:	388.46		
Target:	Autophagy; Apoptosis		
Pathway:	Autophagy; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 77.5 mg/mL (199.51 mM; Need ultrasonic)  
 H<sub>2</sub>O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.5743 mL	12.8713 mL	25.7427 mL
	5 mM	0.5149 mL	2.5743 mL	5.1485 mL
	10 mM	0.2574 mL	1.2871 mL	2.5743 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.08 mg/mL (5.35 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: 2.08 mg/mL (5.35 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.08 mg/mL (5.35 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

CA-5f is a potent late-stage **macroautophagy/autophagy** inhibitor via inhibiting autophagosome-lysosome fusion. CA-5f increases LC3B-II (a marker to monitor autophagy) and SQSTM1 protein, and also increases ROS production. Anti-tumor activity<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

Macroautophagy/autophagy<sup>[1]</sup>

<b>In Vitro</b>	<p>CA-5f (0-40 <math>\mu</math>M, 6 hour) concentration- and time-dependently elevates the level of LC3B-II (a marker to monitor autophagy) and SQSTM1 protein both in A549 cells and HUVECs<sup>[1]</sup>.</p> <p>CA-5f (20 <math>\mu</math>M, 6 hours) inhibits the degradation of autophagosomes when treated alone or in combination Bafilomycin A1 (100 nM) or Chloroquine (30 <math>\mu</math>M) in A549 cells and HUVECs<sup>[1]</sup>.</p> <p>CA-5f (20 <math>\mu</math>M) neither impairs the hydrolytic function nor the quantity of lysosomes<sup>[1]</sup>.</p> <p>CA-5f (20 <math>\mu</math>M, 96 hours) inhibits the growth of A549 cells, and less cytotoxic to normal HUVECs<sup>[1]</sup>.</p> <p><b>Cell Viability Assay<sup>[1]</sup></b></p>								
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	Concentration:	20 $\mu$ M							
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<p><b>Western Blot Analysis<sup>[1]</sup></b></p>									
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<b>In Vivo</b>	<p>CA-5f (40 mg/kg, i.p., every 2 days for up to 30 days) is well tolerated, and potently inhibits the growth of tumor in nude mice bearing A549 lung cancer cells<sup>[1]</sup>.</p> <p>CA-5f (40 mg/kg, i.p.) suppresses autophagic flux and induces apoptosis in nude mice bearing A549 lung cancer cells<sup>[1]</sup>.</p>								
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## REFERENCES

[1]. Zhang L, et al. Identification of compound CA-5f as a novel late-stage autophagy inhibitor with potent anti-tumor effect against non-small cell lung cancer. *Autophagy*. 2019 Mar;15(3):391-406.

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

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