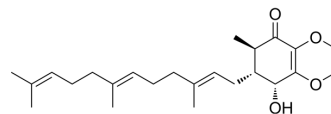


## Antroquinonol

<b>Cat. No.:</b>	HY-19893		
<b>CAS No.:</b>	1010081-09-0		
<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	390.56		
<b>Target:</b>	Keap1-Nrf2		
<b>Pathway:</b>	NF-κB		
<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 : 100 mg/mL (256.04 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.5604 mL	12.8021 mL	25.6043 mL
		5 mM	0.5121 mL	2.5604 mL	5.1209 mL
10 mM		0.2560 mL	1.2802 mL	2.5604 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 (6.40 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 (6.40 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Antroquinonol ((+)-Antroquinonol), a ubiquinone derivative from the mushroom <i>Antrodia camphorata</i> , has hepatoprotective, anti-inflammatory, and anti-cancer effects <sup>[1]</sup> . Antroquinonol can be used for the research of colon cancer <sup>[2]</sup> . Antroquinonol reduces oxidative stress by enhancing the Nrf2 signaling pathway and inhibits inflammation and sclerosis in focal segmental glomerulosclerosis mice <sup>[3]</sup> .
<b>In Vitro</b>	Antroquinonol is a ubiquinone derivative from <i>A.camphorata</i> <sup>[2]</sup> . Antroquinonol inhibits cell growth and suppresses the migratory/invasive ability of human colon cancer cells.

Antroquinonol at high concentrations (40-80  $\mu\text{M}$ ) exhibits growth inhibitory activities in the three colon cancer cell lines, whereas low concentrations of Antroquinonol (2.5-20  $\mu\text{M}$ ) shows modest growth inhibition<sup>[2]</sup>. Antroquinonol possesses the ability to inhibit breast cancer migration/invasion by inhibiting the EMT and MMP-9 gene expression<sup>[2]</sup>. Antroquinonol has inducible nitric oxide synthase (iNOS) inhibitory activity in lipopolysaccharide (LPS)-activated macrophages, anti-inflammatory activity in macrophage cell cultures by reducing the production of tumor necrosis factor- $\alpha$  and interleukin (IL)-1 $\beta$ , and anti-cancer activity against hepatoma cells<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay<sup>[2]</sup>

Cell Line:	The human HCT15, HCT116, and LoVo colon cancer cell lines
Concentration:	0, 2.5, 5, 10, 20, 40, and 80 $\mu\text{M}$
Incubation Time:	24 hours
Result:	The GI <sub>50</sub> s on HCT15 and LoVo cells were 34.8 $\pm$ 0.07 and 17.9 $\pm$ 0.07 $\mu\text{M}$ , and the GI <sub>50</sub> on HCT116 cells was >80 $\mu\text{M}$ .

In Vivo

Antroquinonol is a major active component of a mushroom, namely Antrodia camphorata, and it has inhibitory effects on nitric oxide production and inflammatory reactions. Antroq ameliorates proteinuria, improves renal function, and decreases renal lesions, including EPHL, a severe index of glomerular injury, in FSGS mice<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	8-week-old female BALB/c mice <sup>[3]</sup>
Dosage:	50 mg/kg
Administration:	Given daily by gavage until sacrifice
Result:	Disease-control FSGS mice treated with vehicle showed increased urine protein levels from day 7 after induction of FSGS that continued to increase to the end of the study at day 21. This effect was almost completely suppressed in FSGS mice treated with Antroq, their levels being similar to those in normal control mice.

## REFERENCES

- [1]. Zhen-Wei Yi, et al. Antrodin A from mycelium of Antrodia camphorata alleviates acute alcoholic liver injury and modulates intestinal flora dysbiosis in mice. *J Ethnopharmacol.* 2020 May 23;254:112681.
- [2]. Hsien-Chun Lin, et al. Antroquinonol, a Ubiquinone Derivative from the Mushroom Antrodia camphorata, Inhibits Colon Cancer Stem Cell-like Properties: Insights into the Molecular Mechanism and Inhibitory Targets. *J Agric Food Chem.* 2017 Jan 11;65(1):51-59.
- [3]. Pei-Yi Tsai, et al. Antroquinonol reduces oxidative stress by enhancing the Nrf2 signaling pathway and inhibits inflammation and sclerosis in focal segmental glomerulosclerosis mice. *Free Radic Biol Med.* 2011 Jun 1;50(11):1503-16.

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

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