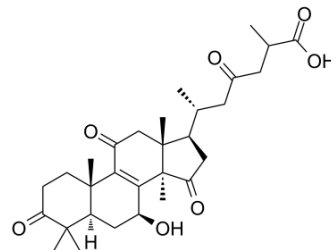


## Ganoderic acid D

<b>Cat. No.:</b>	HY-N1511		
<b>CAS No.:</b>	108340-60-9		
<b>Molecular Formula:</b>	C <sub>30</sub> H <sub>42</sub> O <sub>7</sub>		
<b>Molecular Weight:</b>	514.65		
<b>Target:</b>	Sirtuin; Apoptosis		
<b>Pathway:</b>	Cell Cycle/DNA Damage; Epigenetics; Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (194.31 mM; Need ultrasonic)  
 H<sub>2</sub>O : < 0.1 mg/mL (insoluble)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.9431 mL	9.7153 mL	19.4307 mL
	5 mM	0.3886 mL	1.9431 mL	3.8861 mL
	10 mM	0.1943 mL	0.9715 mL	1.9431 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: 2.5 mg/mL (4.86 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.5 mg/mL (4.86 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (4.86 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Ganoderic acid D, a highly oxygenated tetracyclic triterpenoid, is the major active component of *Ganoderma lucidum*. Ganoderic acid D upregulates the protein expression of SIRT3 and induces the deacetylated cyclophilin D (CypD) by SIRT3. Ganoderic acid D inhibits the energy reprogramming of colon cancer cells including glucose uptake, lactate production, pyruvate and acetyl-coenzyme production in colon cancer cells<sup>[1]</sup>. Ganoderic acid D induces HeLa human cervical carcinoma apoptosis<sup>[2]</sup>.

IC <sub>50</sub> & Target	SIRT3								
In Vitro	<p>Ganoderic acid D can inhibit the growth of numerous cancer cell lines and it inhibits HeLa human cervical carcinoma cells with an IC<sub>50</sub> of 17.3 mM<sup>[2]</sup>. Ganoderic acid D (1-50 μM; 24-72 hours) reduces the cell survival rate in a dose- and time-dependent manner<sup>[2]</sup>.</p> <p>Ganoderic acid D (10, 50 μM; 24, 48 hours) induces G2/M phase arrest<sup>[2]</sup>.</p> <p>Ganoderic acid D (10, 50 μM; 24, 48 hours) induces a morphological change typical of apoptosis in HeLa cells<sup>[2]</sup>.</p> <p>Ganoderic acid D (10 μM; 48 hours) up-regulates 14-3-3E and PRDX3<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay<sup>[2]</sup></p>								
	<table border="1"> <tr> <td>Cell Line:</td> <td>HeLa human cervical carcinoma cell line (CCL-2)</td> </tr> <tr> <td>Concentration:</td> <td>1, 5, 10, 20, 50 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24, 48, 72 hours</td> </tr> <tr> <td>Result:</td> <td>Reduced the cell survival rate in a dose- and time-dependent manner and had an IC<sub>50</sub> value of 17.3 μM for 48 hours treatment.</td> </tr> </table>	Cell Line:	HeLa human cervical carcinoma cell line (CCL-2)	Concentration:	1, 5, 10, 20, 50 μM	Incubation Time:	24, 48, 72 hours	Result:	Reduced the cell survival rate in a dose- and time-dependent manner and had an IC <sub>50</sub> value of 17.3 μM for 48 hours treatment.
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	Concentration:	1, 5, 10, 20, 50 μM							
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	Result:	Reduced the cell survival rate in a dose- and time-dependent manner and had an IC <sub>50</sub> value of 17.3 μM for 48 hours treatment.							
	<p>Cell Cycle Analysis<sup>[2]</sup></p>								
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	<p>Apoptosis Analysis<sup>[2]</sup></p>								
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## REFERENCES

[1]. Liu Z, et al. Effect of ganoderic acid D on colon cancer Warburg effect: Role of SIRT3/cyclophilin D. Eur J Pharmacol. 2018 Apr 5;824:72-77.

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[2]. Yue QX, et al. Proteomics characterization of the cytotoxicity mechanism of ganoderic acid D and computer-automated estimation of the possible drug target network. Mol Cell Proteomics. 2008 May;7(5):949-61.

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

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