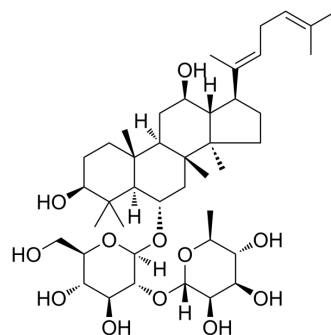


## Ginsenoside F4

Cat. No.:	HY-N2503
CAS No.:	181225-33-2
Molecular Formula:	C <sub>42</sub> H <sub>70</sub> O <sub>12</sub>
Molecular Weight:	767
Target:	Apoptosis; MMP
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (65.19 mM; Need ultrasonic)				
		Mass			
		Solvent Concentration	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	1.3038 mL	6.5189 mL	13.0378 mL
		5 mM	0.2608 mL	1.3038 mL	2.6076 mL
		10 mM	0.1304 mL	0.6519 mL	1.3038 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<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: ≥ 1.25 mg/mL (1.63 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: 1.25 mg/mL (1.63 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 1.25 mg/mL (1.63 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

Description	Ginsenoside F4 (GF4), ginseng saponin, isolated from notoginseng or red ginseng. Ginsenoside F4 (GF4) has inhibitory effect on human lymphocytoma JK cell by inducing its apoptosis <sup>[1]</sup> . Ginsenoside F4 (GF4) inhibits matrix metalloproteinase 13 (MMP 13) expression in IL-1β-treated chondrocytes and blocks cartilage breakdown in rabbit cartilage tissue culture, shows therapeutic potential for preventing cartilage collagen matrix breakdown in diseased tissues <sup>[2]</sup> .
In Vitro	Ginsenoside F4 inhibits JK cell proliferation with an IC <sub>50</sub> value of 87.74 μM <sup>[1]</sup> . Ginsenoside F4 (8.15-130.38 μM) dose-dependently increases Bax expression but reduces Bcl-2 expression in human lymphocytoma JK cells <sup>[1]</sup> . Ginsenoside F4 (8.15-130.38 μM) induces apoptosis in human lymphocytoma JK cells to exhibit anti-tumor activity <sup>[1]</sup> .

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

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

Cell Line:	Human lymphocytoma JK cells
Concentration:	8.15 $\mu$ M, 65.19 $\mu$ M, 130.38 $\mu$ M
Incubation Time:	
Result:	Decreased Bcl-2 protein level and increased the Bax level, which changes related to apoptosis.

## REFERENCES

[1]. Chen B, et al. The apoptosis-inducing effect of ginsenoside F4 from steamed notoginseng on human lymphocytoma JK cells. Nat Prod Res. 2013;27(24):2351-4.

[2]. Lee JH, et al. Ginsenosides from Korean red ginseng inhibit matrix metalloproteinase-13 expression in articular chondrocytes and prevent cartilage degradation. Eur J Pharmacol. 2014 Feb 5;724:145-51.

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

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