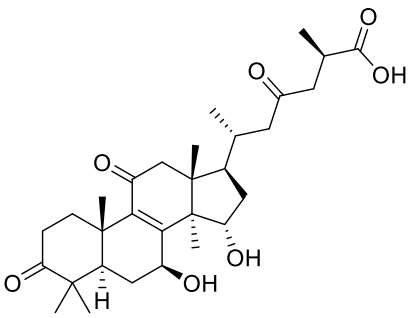


# Product data sheet



MedKoo Cat#: 600138 Name: Ganoderic Acid A CAS#: 81907-62-2 Chemical Formula: C <sub>30</sub> H <sub>44</sub> O <sub>7</sub> Exact Mass: 516.3087 Molecular Weight: 516.67		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Ganoderic acids are a class of closely related triterpenoids (derivatives from lanosterol) found in Ganoderma mushrooms. For thousands of years, the fruiting bodies of Ganoderma fungi have been used in traditional medicines in East Asia. Consequently, there have been efforts to identify the chemical constituents that may be responsible for the putative pharmacological effects. There are dozens of ganoderic acids that have been isolated and characterized, of which ganoderic acid A and ganoderic acid B are the most well characterized. Some ganoderic acids have been found to possess biological activities including hepatoprotection, anti-tumor effects, and 5- $\alpha$  reductase inhibition. (Source: [http://en.wikipedia.org/wiki/Ganoderic\\_acid](http://en.wikipedia.org/wiki/Ganoderic_acid)).

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	5.0	9.68
DMSO	54.5	105.48
Ethanol	51.5	99.68

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.94 mL	9.68 mL	19.35 mL
5 mM	0.39 mL	1.94 mL	3.87 mL
10 mM	0.19 mL	0.97 mL	1.94 mL
50 mM	0.04 mL	0.19 mL	0.39 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

- Wang D, Cai X, Xu F, Kang H, Li Y, Feng R. Ganoderic Acid A alleviates the degeneration of intervertebral disc via suppressing the activation of TLR4/NLRP3 signaling pathway. *Bioengineered*. 2022 May;13(5):11684-11693. doi: 10.1080/21655979.2022.2070996. PMID: 35506157; PMCID: PMC9275919.
- Wang T, Lu H. Ganoderic acid A inhibits ox-LDL-induced THP-1-derived macrophage inflammation and lipid deposition via Notch1/PPAR $\gamma$ /CD36 signaling. *Adv Clin Exp Med*. 2021 Oct;30(10):1031-1041. doi: 10.17219/acem/137914. PMID: 34329545.

### In vivo study

- Yang W, Liu R, Zhou L, Chen X, Hu Y. Effects of Ganoderic Acid A on Gastrointestinal Motility and Brain-Gut Peptide in Rats with Functional Dyspepsia. *Evid Based Complement Alternat Med*. 2022 May 31;2022:2298665. doi: 10.1155/2022/2298665. PMID: 35685728; PMCID: PMC9173975.

# Product data sheet



2. Zhu J, Ding J, Li S, Jin J. Ganoderic acid A ameliorates non-alcoholic steatohepatitis (NASH) induced by high-fat high-cholesterol diet in mice. *Exp Ther Med*. 2022 Apr;23(4):308. doi: 10.3892/etm.2022.11237. Epub 2022 Feb 24. PMID: 35340879; PMCID: PMC8931630.

## 7. Bioactivity

Biological target:

Ganoderic acid A can inhibit of the JAK-STAT3 signaling pathway.

### In vitro activity

The present data indicated that pretreatment with GAA (ganoderic acid A) notably suppressed the mRNA expression of TLR2, TLR4, NLRP3, and caspase-1 induced by H<sub>2</sub>O<sub>2</sub> (Figure 6(a)) in NP (nucleus pulposus) cells. Meanwhile, western blot analysis showed that GAA could significantly inhibit the expressions of these proteins (Figure 6(b)). Thus, TLR4/NLRP3 signaling pathway activation induced by H<sub>2</sub>O<sub>2</sub> could be attenuated by GAA.

Reference: *Bioengineered*. 2022 May;13(5):11684-11693. <https://pubmed.ncbi.nlm.nih.gov/35506157/>

### In vivo activity

Compared to thinning, rupture, and basal layer congestion of gastric mucosa in the gastric and duodenal tissues of the FD (functional dyspepsia) group, the tissues in the GAA (ganoderic acid A) and Dom (domperidone) groups revealed intact gastric structure (Figure 2(a)). In addition, epithelial cell swelling, focal necrosis, exfoliation, and massive inflammatory cell infiltration were seen in the duodenal tissue sections of the FD group. Upon treatment with GAA or Dom, however, these symptoms almost disappeared and only mild hyperemia and inflammatory cell infiltration remained with intact duodenal mucosa (Figure 2(b)). Collectively, GAA could significantly alleviate the gastric and duodenal tissue injury in FD rats.

Reference: *Evid Based Complement Alternat Med*. 2022 May 31;2022:2298665. <https://pubmed.ncbi.nlm.nih.gov/35685728/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*