[ **Product Information** ]

**Name:** Astragaloside IV  
**Catalog No.:** CFN99171  
**Cas No.:** 84687-43-4  
**Purity:** > 98%  
**M.F:** C_{41}H_{68}O_{14}  
**M.W:** 784.98  

**Physical Description:** White powder  

**Synonyms:** beta-D-Glucopyranoside;(3beta,6alpha,16beta,20R,24S)-20,24-epoxy-16,25-dihydroxy-3-(beta-D-xylopyranosyloxy)-9,19-cyclolanostan-6-yl;(5xi,6beta,8xi,9xi,16alpha,20R,24S)-16,25-dihydroxy-3-(beta-D-xylopyranosyloxy)-20,24-epoxy-9,19-cyclolanostan-6-yl beta-D-glucopyranoside.

[ **Intended Use** ]

1. Reference standards;  
2. Pharmacological research;  
3. Food research;  
4. Cosmetic research;  
5. Synthetic precursor compounds;  
6. Intermediates & Fine Chemicals;  
7. Ingredient in supplements, beverages;  
8. Others.
The root of *Astragalus membranaceus* (Fisch.) Bunge.

**Biological Activity or Inhibitors**

Astragaloside IV, a saponin isolated from *Astragalus membranaceus*, has been shown to protect the myocardium against ischemia/reperfusion injury, it also has beneficial effect in H/R-induced injury may be related to normalization of SR Ca^{2+} pump expression and, thus, it may prevent the depression in SR Ca^{2+} handling.[1]

Astragaloside IV synergizes with ferulic acid to inhibit renal tubulointerstitial fibrosis in rats with obstructive nephropathy.[2]

Astragaloside IV attenuates glycated albumin-induced epithelial-to-mesenchymal transition by inhibiting oxidative stress in renal proximal tubular cells.[3]

Astragaloside IV can reduce phosphorylation of JNK and ERK1/2 induced by complement membranous attack complex, the mechanism of *Astragalus membranaceus* in the treatment of membranous nephropathy (MN) may be related to its attenuation of podocyte injury through regulation of cytoskeleton and mitogen activated protein kinase. [4]

Astragaloside IV can reduce blood pressure and triglyceride levels in fructose-fed rats and high dose of astragaloside IV also improves glucose tolerance and endothelium-dependent vasorelaxation, the mechanism is associated with increased levels of aortic NOx and cGMP and is abrogated by blockade of nitric oxide synthase with NG-nitro-l-arginine methyl ester (l-NAME), suggests that astragaloside IV may be useful in ameliorating food-induced metabolic syndrome.[5]

Astragaloside IV attenuates inflammatory cytokines by inhibiting TLR4/NF-κB signaling pathway in isoproterenol-induced myocardial hypertrophy, and attenuates Toll-like receptor 4 expression via NF-κB pathway under high glucose condition in mesenchymal stem cells.[6,7]

Astragaloside IV can inhibit adenovirus replication and apoptosis in A549 cells in vitro.[8]

Astragaloside IV can inhibit doxorubicin-induced cardiomyocyte apoptosis mediated by
mitochondrial apoptotic pathway via activating the PI3K/Akt pathway.[9] 

**[Solvent]**

Pyridine, Methanol, Ethanol, Hot water, etc.

**[HPLC Method]**[10]

HPLC-ELSD:
- Mobile phase: Acetonitrile -H2O=35:65 ;
- Flow rate: 1.0 ml/min;
- Column temperature: 35 °C;
- Drift tube temperature: 95 °C;
- Atomizer temperature: 50 °C;
- Flow rate of nitrogen: 3.0 L/min.

**[Storage]**

2-8°C, Protected from air and light, refrigerate or freeze.

**[References]**

[ Contact ]

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