

## Ruscogenin Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

### [ Product Information ]

**Name:** Ruscogenin

**Catalog No.:** CFN99530

**Cas No.:** 472-11-7

**Purity:** > 98%

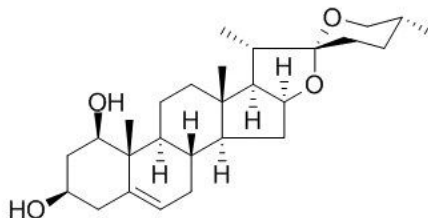
**M.F:** C<sub>27</sub>H<sub>42</sub>O<sub>4</sub>

**M.W:** 430.63

**Physical Description:** White powder

**Synonyms:**

(1β,3β,25R)-spirost-5-en-1,3-diol; (1β,3β,22xi,25R)-spirost-5-en-1,3-diol.



### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

### [ Source ]

The root of *Ophiopogon japonicus* (L. f.) Ker-Gawl.

## **[ Biological Activity or Inhibitors ]**

Ruscogenin (RUS), first isolated from *Ruscus aculeatus*, also a major steroidal sapogenin of traditional Chinese herb *Radix Ophiopogon japonicus*, has been found to exert significant anti-inflammatory and anti-thrombotic activities; the possible mechanism of the anti-inflammatory activity is role of intercellular adhesion molecule-1 and nuclear factor-kappaB.<sup>[1]</sup>

Ruscogenin significantly attenuates LPS-induced acute lung injury (ALI) via inhibiting expressions of TF and iNOS and NF- $\kappa$ B p65 activation, indicates that it as a potential therapeutic agent for ALI or sepsis.<sup>[2]</sup>

Ruscogenin can protect the brain against ischemic damage caused by middle cerebral artery occlusion (MCAO), and this effect may be through downregulation of NF- $\kappa$ B-mediated inflammatory responses.<sup>[3]</sup>

Ruscogenin inhibits activation of neutrophil through cPLA 2, PAK, Akt, MAPKs, cAMP, and PKA signaling pathways; increased PKA activity is associated with suppression of the phosphorylation of Akt, p38MAPK, and ERK1/2 pathways.<sup>[4]</sup>

Ruscogenin may attenuate high-fat diet (HFD)-induced steatohepatitis through downregulation of NF- $\kappa$ B-mediated inflammatory responses, reducing hepatic lipogenic gene expression, and upregulating proteins in  $\beta$ -oxidation pathway.<sup>[5]</sup>

Ruscogenin suppresses the inflammation and ameliorates the structural and functional abnormalities of the diabetic kidney in rats might be associated with inhibition of NF- $\kappa$ B mediated inflammatory genes expression.<sup>[6]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[7]</sup>**

HPLC-ELSD:

Mobile phase: Methanol -H<sub>2</sub>O=88:12 ;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

Drift tube temperature: 42.2 °C

Flow rate of gas : 1.4L/min.

## **[ Storage ]**

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

## **[ References ]**

- [1] Huang Y L, Kou J P, Ma L, *et al. J. Pharmacol. Sci.*, 2008, 108(2):198-205.
- [2] Sun Q, Chen L, Gao M, *et al. Int .Immunopharmacol.*, 2011, 12(1):88-93.
- [3] Teng G, Qian L, Qian Y, *et al. Eur. J. Pharmacol.*, 2013, 714(1-3):303-11.
- [4] Lin Y N, Jia R, Liu Y H, *et al. J. Steroid Biochem.*, 2015, 154:85-93.
- [5] Lu H J , Tzeng T F , Liou S S, *et al. Biomed. Res. Int.*, 2014, 2014(1):652680.
- [6] Lu H J, Tzeng T F, Liou S S, *et al. BMC Complement. Altern Med.*, 2014, 14(1):1-12.
- [7] Liu C H, Li M, Feng Y Q, *et al. Pharmacogn. Mag.*, 2016, 12(45):13-20.

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