

## Rutin Datasheet

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

### [ Product Information ]

**Name:** Rutin

**Catalog No.:** CFN99642

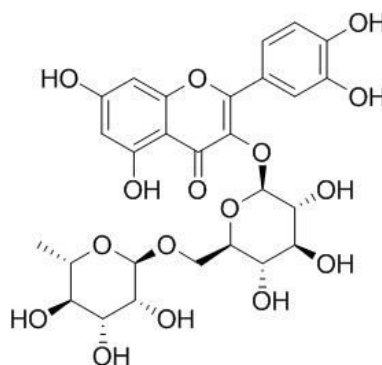
**Cas No.:** 153-18-4

**Purity:** > 98%

**M.F:** C<sub>27</sub>H<sub>30</sub>O<sub>16</sub>

**M.W:** 610.5

**Physical Description:** Yellow powder



**Synonyms:** 2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-3-[[[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-[[[(2R,3R,4R,5R,6S)-3,4,5-trihydroxy-6-methyl-2-oxanyl]oxymethyl]-2-oxanyl]oxy]-1-benzopyran-4-one.

### [ 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.

## **[ Source ]**

The fruits of *Styphnolobium japonicum* (L.) Schott.

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

Rutin is a natural antioxidant, all doses can diminish reactive oxygen species and high doses (10-100 microM) decrease malondialdehyde concentration; induce favorable changes in the antioxidant defense system of cultured HepG2 that prevent or delay conditions which favor cellular oxidative stress.<sup>[1]</sup>

Rutin can dose-dependently inhibit A  $\beta$  42 fibrillization and attenuate A  $\beta$  42-induced cytotoxicity in SH-SY5Y neuroblastoma cells, and decrease the formation of reactive oxygen species (ROS), NO, glutathione disulfide (GSSG), and malondialdehyde (MDA), reduce inducible nitric oxide synthase (iNOS) activity, attenuate mitochondrial damage, increase the glutathione (GSH)/GSSG ratio, enhance the activities of super oxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx), and modulate the production of proinflammatory cytokines by decreasing TNF-  $\alpha$  and IL-1  $\beta$  generation in microglia.<sup>[2]</sup>

Rutin(200 mg/kg) has gastroprotective effect through an anti-lipoperoxidant effect, and also by enhancement of the anti-oxidant enzymatic (GSH-Px) activity.<sup>[3]</sup>

Rutin (R) in combination with vitamin E (VE) synergistically inhibit oxidative damage, attenuates expression in -60 cells and that this effect is mediated by a decreased activity of through down-regulation of protein expression of (-R)/, while the of R+VE appears to play a minor role.<sup>[4]</sup>

Rutin attenuates ischemic neural apoptosis by reducing the expression of p53, preventing morphological changes and increasing endogenous antioxidant enzymatic activities, thus, rutin treatment may represent a novel approach in lowering the risk or improving the function of ischemia – reperfusion brain injury-related disorders.<sup>[5]</sup>

## **[ Solvent ]**

Pyridine, DMSO, Methanol, Ethanol, Hot water, etc.

## **[ HPLC Method ]**<sup>[6]</sup>

Mobile phase: Methanol-H<sub>2</sub>O=60:40(adjusted to pH 3.0 by orthophosphoric acid);

Flow rate: 1.0 ml/min;

Column temperature:Room temperature;

The wave length of determination: 360 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Alía M, Mateos R, Ramos S, *et al. Eur. J. Nutr.* , 2006, 45(1):19-28.
- [2] Wang S W, Wang Y J, Su Y J, *et al. Neurotoxicology*, 2012, 33(3):482-90.
- [3] Kreft I, Fabjan N, Yasumoto K. *Food Chem.*, 2006, 98(3):508-12.
- [4] Mondul A M, Rager H C, Kopp W, *et al. J. Nutr.*, 2011, 141(11):2030-4.
- [5] Khan M M, Ahmad A, Ishrat T, *et al. Brain Res.*, 2009, 9(1292):123-35.
- [6] Athar M T. *J. Liq. Chromatogr. R. T.*, 2011, 34(6):446-55.

## **[ Contact ]**

### **Address:**

S5-3 Building, No. 111, Dongfeng Rd.,  
Wuhan Economic and Technological Development Zone,  
Wuhan, Hubei 430056,  
China

**Email:** info@chemfaces.com

**Tel:** +86-27-84237783

**Fax:** +86-27-84254680

**Web:** [www.chemfaces.com](http://www.chemfaces.com)

**Tech Support:** service@chemfaces.com