

## Myricetin Datasheet

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

### [ Product Information ]

**Name:** Myricetin

**Catalog No.:** CFN98877

**Cas No.:** 529-44-2

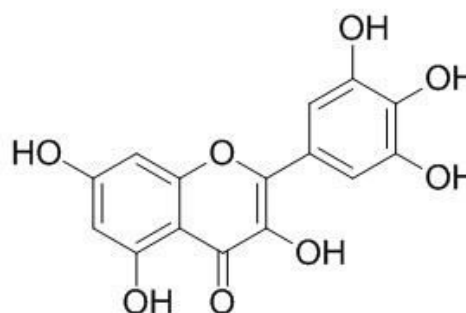
**Purity:** > 98%

**M.F:** C<sub>15</sub>H<sub>10</sub>O<sub>8</sub>

**M.W:** 318.2

**Physical Description:** Yellow powder

**Synonyms:** 3,5,7-Trihydroxy-2-(3,4,5-trihydroxyphenyl)-1-benzopyran-4-one.



### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Ingredient in supplements, beverages;
7. Aromatics;
8. Others.

### [ Source ]

The fruits of *Myrica rubra* (Lour.) Zucc.

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

Myricetin, quercetin and gossypol, the plant-derived phenolic compounds, are powerful inhibitors of iron-induced lipid peroxidation in rat liver microsomes; they accelerate bleomycin-dependent DNA damage in the presence of  $\text{Fe}^{3+}$ , possibly by reducing the  $\text{Fe}^{3+}$ -bleomycin-DNA complex to the  $\text{Fe}^{2+}$  form; hence these naturally-occurring substances can have pro-oxidant effects under some reaction conditions and cannot be classified simplistically as "antioxidants".<sup>[1]</sup>

Myricetin, quercetin and catechin-gallate, inhibit glucose uptake in isolated rat adipocytes over the concentration range of 10-100  $\mu\text{M}$ .<sup>[2]</sup>

Myricetin can significantly block both endogenous and TPA-induced MMP-2 enzyme activity by inhibiting its protein expression and enzyme activity; the blockade involved suppression of PKC translocation, ERK phosphorylation, and c-Jun protein expression.<sup>[3]</sup>

Myricetin and quercetin have anticancer activity, the activity may be due to inhibition of TrxR, consequently inducing cell death; myricetin has potent anticancer-promoting activity and mainly targets protein kinase kinase (MEK) signaling, which may contribute to the chemopreventive potential of several foods including red wines.<sup>[4,5]</sup>

Myricetin, quercetin, and kaempferol inhibit HGF/Met signaling in a medulloblastoma cell line (DAOY), prevent the formation of actin-rich membrane ruffles and results in the inhibition of Met-induced cell migration in Boyden chambers.<sup>[6]</sup>

Myricetin has inhibitory effects on mammalian DNA polymerase, topoisomerase and human cancer cell proliferation.<sup>[7]</sup>

Myricetin exerts potent anti-photoaging activity by regulating MMP-9 expression through the suppression of Raf kinase activity.<sup>[8]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone.

## **[ HPLC Method ]<sup>[9]</sup>**

Mobile phase: Acetonitrile- 0.04% Phosphoric acid, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 370 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Laughton M J, Halliwell B, Evans P J, *et al. Biochem. Pharmacol.*, 1989, 38(17): 2859-65.
- [2] Strobel P, Allard C, Perezacle T, *et al. Biochem. J.*, 2005, 386(3):471-8.
- [3] Ko C H, Shen S C, Lee T J, *et al. Mol. Cancer Ther.*, 2005, 4(2):281-90.
- [4] Lu J, Papp L V, Fang J, *et al. Cancer Res.*, 2006, 66(8):4410-8.
- [5] Lee K W, Kang N J, Rogozin E A, *et al. Carcinogenesis*, 2007, 28(9):1918-27.
- [6] David Labbé, Mathieu Provençal, Sylvie Lamy, *et al. J. Nutr.*, 2009, 139(4):646-52.
- [7] Shiomi K, Kuriyama I, Yoshida H, *et al. Food Chem.*, 2013, 139(1–4):910-8.
- [8] Jung S K, Lee K W, Kim H Y, *et al. Biochem. Pharmacol.*, 2010, 79(10):1455-61.
- [9] Zhang Y S, Zhang Q Y, Li L Y, *et al. J. Chromatogr. B*, 2007, 860(1):4-9.

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