

Resveratrol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Resveratrol

Catalog No.: CFN98791

Cas No.: 501-36-0

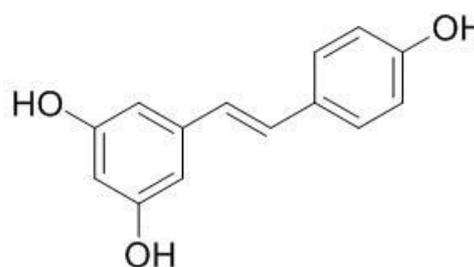
Purity: > 98%

M.F: C₁₄H₁₂O₃

M.W: 228.2

Physical Description: Powder

Synonyms: 5-[(E)-2-(4-hydroxyphenyl)ethenyl]benzene-1,3-diol.



[Intended Use]

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

[Source]

The rhizomes of *Polygonum cuspidatum* Sieb. et Zucc.

[Biological Activity or Inhibitors]

Resveratrol, a phytoalexin found in grapes and other food products, has cancer chemopreventive activity in assays representing three major stages of carcinogenesis; it acts as an antioxidant and antimutagen and to induce phase II drug-metabolizing enzymes(anti-initiation activity); it mediates anti-inflammatory effects and inhibits cyclooxygenase and hydroperoxidase functions (antipromotion activity); and it induces human promyelocytic leukemia cell differentiation (antiprogession activity); it inhibits the development of preneoplastic lesions in carcinogen-treated mouse mammary glands in culture and inhibits tumorigenesis in a mouse skin cancer model.^[1]

Resveratrol shifts the physiology of middle-aged mice on a high-calorie diet towards that of mice on a standard diet and significantly increases their survival; it produces changes associated with longer lifespan, including increased insulin sensitivity, reduces insulin-like growth factor-1 (IGF-I) levels, increases AMP-activated protein kinase (AMPK) and peroxisome proliferator-activated receptor-gamma coactivator 1alpha (PGC-1alpha) activity, increases mitochondrial number, and improves motor function.; it improves health and survival of mice on a high-calorie diet.^[2]

Resveratrol has been reported as a calorie restriction mimetic with potential antiaging and antidiabetogenic properties, it is widely consumed as a nutritional supplement, the metabolic effects of resveratrol result from competitive inhibition of cAMP-degrading phosphodiesterases, leading to elevated cAMP levels; the resulting activation of Epac1, a cAMP effector protein, increases intracellular Ca²⁺ levels and activates the CamKK beta-AMPK pathway via phospholipase C and the ryanodine receptor Ca²⁺-release channel; suggests that resveratrol ameliorates aging-related metabolic phenotypes by inhibiting cAMP phosphodiesterases.^[3]

Resveratrol induces apoptosis through activation of p53 activity, suggesting that its anti-tumor activity may occur through the induction of apoptosis.^[4]

Resveratrol can improve dyslipidemia, hyperinsulinemia, hyperleptinemia and

hypertension in obese Zucker rats, and produce anti-inflammatory effects in VAT, effects that seem to be mediated by AMPK activation.^[5]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone, etc.

[HPLC Method]^[6]

Mobile phase: Acetic acid–Methanol–H₂O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 306 nm.

[Storage]

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

[References]

- [1] Jang M, Pezzuto J M. *Science*, 1997, 275(5297):218-20.
- [2] Baur J A, Pearson K J, Price N L, *et al.* *Nature*, 2006, 444(7117):337-42.
- [3] Park S J, Ahmad F, Philp A, *et al.* *Cell*, 2012, 148(3):421-33.
- [4] Huang C, Ma W Y, Goranson A, *et al.* *Carcinogenesis*, 1999, 20(2):237-42.
- [5] Rivera L, R Morón, Zarzuelo A, *et al.* *Biochem. Pharmacol.*, 2009, 77(6):1053-63.
- [6] M.C Pascual-Martí, Salvador A, Chafer A, *et al.* *Talanta*, 2001, 54(4):735-40.

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