[ **Product Information** ]

**Name:** Resveratrol

**Catalog No.:** CFN98791

**Cas No.:** 501-36-0

**Purity:** > 98%

**M.F:** C_{14}H_{12}O_{3}

**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;

[ **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.\textsuperscript{[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.\textsuperscript{[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.\textsuperscript{[3]}

Resveratrol induces apoptosis through activation of p53 activity, suggesting that its anti-tumor activity may occur through the induction of apoptosis.\textsuperscript{[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 wavelength of determination: 306 nm.

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

[ References ]

[ Contact ]
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