Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

Product Name: Resveratrol Powder (Natural)

INCI name: Resveratrol

CAS: 501-36-0

Synonyms: Cis-resveratrol, Kojo-kon, Stilbene phytoalexin, Trans-resveratrol

Chemical classification: Phenolic compound

Functional category: Antioxidant, protective agent ~ skin

IUPAC name: 1,3-Benzenediol, 5-[(1E)-2-(4-Hydroxyphenyl)ethenyl]

Description: Resveratrol is a natural polyphenolic compound found in plants such as grapes, peanuts, and certain types of berries, including blueberries, raspberries, and cranberries. In cosmetics, it is used for its exceptionally strong antioxidant and anti-inflammatory properties, which help protect the skin from harmful environmental effects and free radicals. In this way, resveratrol helps prevent premature aging, reduces the appearance of fine lines and wrinkles, and promotes overall skin health. Besides its antioxidant effects, resveratrol can soothe irritation and redness, making it suitable for use in products intended for sensitive or acne-prone skin. Additionally, it can improve skin elasticity and stimulate collagen synthesis, contributing to the firmness and youthful appearance of the skin. Its ability to inhibit melanin production makes it useful for evening skin tone and reducing hyperpigmentation, including dark spots. Resveratrol has also proven effective in treating skin changes associated with estrogen deficiency during menopause, such as sagging and thinning skin. These characteristics make it a valuable ingredient in anti-aging skincare products. Resveratrol powder typically ranges from light brown to off-white in color, with a finely granulated consistency, making it easy to dissolve in formulations. It is chemically stable when stored in a dry and dark place, as it is sensitive to light and moisture, which can affect its efficacy and stability. It has a relatively high melting point, between 253°C and 255°C, allowing it to withstand heating processes in some cosmetic formulations without losing its beneficial properties. Resveratrol is poorly soluble in water (3 mg/100 ml) and ethanol (50 mg/ml), but dissolves well in organic solvents, facilitating its application in a wide range of cosmetic products. Purity: >99%. Resveratrol may be sensitive to light, heat, and oxygen, so it is

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

recommended to store it in dark, airtight containers in a cool place to preserve its stability.

Mechanism of action: The antioxidant mechanism of resveratrol is based on its ability to neutralize free radicals, reactive molecules that damage cellular structures. Free radicals are produced as a result of oxidative processes within the body or in response to external factors such as UV radiation, pollution, and smoking. They have unpaired electrons, making them highly reactive and capable of causing oxidative stress. Resveratrol acts as a "scavenger" of free radicals due to its hydroxyl groups, which can donate electrons to free radicals, stabilizing them and preventing further damage to cellular components. In this way, resveratrol protects lipids in cell membranes from peroxidation, proteins from oxidative modifications, and DNA from mutations. In addition to directly neutralizing free radicals, resveratrol can enhance the activity of endogenous antioxidant enzymes, such as superoxide dismutase, catalase, and glutathione peroxidase. These enzymes further protect cells from oxidative stress, strengthening the skin's defense mechanisms. Besides its antioxidant properties, resveratrol significantly influences the modulation of the inflammatory response. It regulates key signaling pathways, such as the nuclear factor kappa B (NF-kB) pathway, which controls the expression of pro-inflammatory cytokines. By inhibiting the activation of this signaling pathway, resveratrol reduces the synthesis of inflammatory molecules, leading to decreased inflammation. This effect is particularly beneficial in treating skin conditions with chronic inflammation, such as acne and rosacea, as it reduces symptoms and prevents further tissue damage. Resveratrol also activates sirtuins, particularly SIRT1, which play a role in extending cell lifespan and protecting against stress. By activating sirtuins, resveratrol increases cells' resistance to stress factors, promotes DNA repair, and supports cellular energy metabolism. This effect is crucial for maintaining skin vitality and a youthful appearance. Furthermore, resveratrol inhibits the activity of the tyrosinase enzyme, essential for melanin synthesis, which can help control hyperpigmentation, such as dark spots and melasma. By reducing melanin production, resveratrol helps even out skin tone and achieve a more uniform complexion. Additionally, resveratrol influences the synthesis and preservation of collagen in the skin. It stimulates collagen production, which is key to maintaining skin firmness and elasticity, while also inhibiting enzymes like collagenases and elastases that break down collagen and elastin. In this way, it prevents the loss of structural integrity of the skin, reducing the appearance of wrinkles and sagging skin.

Avena Lab
Farmadria d.o.o. Since 1991.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

Benefits:

- Powerful antioxidant (protects the skin from oxidative damage)
- Prevents and corrects signs of skin aging
- Inhibits tyrosinase activity and prevents melanin synthesis
- Brightens the skin and is used for correcting hyperpigmentation and age spots
- Provides protection against the phototoxic effects of UVA rays on the skin
- Superior ability to penetrate the skin barrier

Usage: Resveratrol is used in cosmetic products for its antioxidant, anti-inflammatory, and anti-aging properties, and is commonly found in serums, creams, lotions, and face masks. It is ideal for products intended for mature skin care, as well as those aimed at evening skin tone and reducing hyperpigmentation. The recommended concentration of resveratrol in formulations typically ranges from 0.5% to 1% to achieve effects of reducing visible signs of aging and skin brightening, while lower concentrations, such as 0.04%, can be used for basic antioxidant protection. Resveratrol is often combined with other antioxidants, such as vitamins C and E, to enhance its effect. In cosmetic formulations, resveratrol is available in powder or liquid extract form, soluble in organic solvents like ethanol and propylene glycol, making it easy to use in various products. To preserve its efficacy, resveratrol should be stored in dark, airtight containers, away from light and heat, as it is sensitive to oxidation.

Source of raw materials: Yeast and glucose

Production method: Produced biotechnologically from yeast and glucose using Saccharomyces cerevisiae, a unicellular microorganism from the fungi group that metabolizes sugars into carbon dioxide and alcohol. Glucose is used as the base substrate.

Animal testing: The substance has not been tested on animals

GMO: Non-GMO

Vegan: Does not contain animal-derived components.