INGREDIENTS
Doctor’s Best trans-Resveratrol with ResVinol-25™, a proprietary extract providing concentrated levels of polyphenols and trans-resveratrol from red wine matrix and the root of the Japanese knotweed (*Polygonum cuspidatum*) plant. Designed to ensure potency and purity of the extract from batch to batch, ResVinol-25™ is a high-quality extract subjected to rigorous ProfileProven™ analytical and quality assurance procedures. The product is extensively tested for heavy metals, bacterial and fungal contaminants, and pesticides to verify purity and compliance with acceptable standards.

Resveratrol (3,4',5'-trihydroxystilbene) is a naturally occurring compound that belongs to a group of non-flavonoid polyphenols called stilbenes. Interest in potential health benefits for humans was spurred upon observation of resveratrol being produced by grapevines (and other plants) in response to stress, UV radiation, and microbial attacks.¹

BENEFITS
- Supports Immune System Function*
- Promotes a Normal, Balanced Inflammatory Response*
- Supports Cardiovascular Health*
- Enhances Cerebral Circulation*
- Facilitates Potent Antioxidant Activity*
- Supports the Integrity and Activity of Neuronal Cells*
- Promotes Healthy Aging*
- May Enhance Healthy Glucose Metabolism*

EXTENDED BENEFITS
Supports Immune System Function*
Promotes a Normal, Balanced Inflammatory Response*

A summary report on resveratrol noted that its ability to modulate immune function and promote a balanced inflammatory response works not through one simple mechanism, but through several complex pathways.² As shown in mice, resveratrol inhibited the TNF-alpha cytokine pathways that are critical in regulation of unfavorable eicosanoids. In lung cells, resveratrol inhibited TNF-alpha and histamine

Trans-Resveratrol 100

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<tr>
<td>Serving Size</td>
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<td>Servings per container</td>
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<td>Amount per serving</td>
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<tr>
<td>Trans-Resveratrol</td>
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<tr>
<td>Polyphenols</td>
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<td>(from red wine matrix (Grape (<em>Vitis vinifera</em>)) and Japanese Knotweed (<em>Polygonum cuspidatum</em>))</td>
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<td>+ Daily Value not established.</td>
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Other Ingredients: Modified cellulose (vegetarian capsule), rice flour, silicon dioxide, magnesium stearate (vegetable source).
Suggested Adult Use: Take 1 or more capsules daily with meals, or as recommended by a nutritionally-informed physician.
Non-GMO / Gluten Free / Soy Free / Vegan
Store in a cool dry place.

Trans-Resveratrol 200

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release, in turn blocking production of unfavorable eicosanoids. In lung cells, resveratrol appears to inhibit macrophage release of IL-8 chemokines in vitro, limiting overreaction of white blood cells. In an in vitro study conducted with human polymorphonuclear leukocytes (or PMN-L, a type of white blood cell) showed that even tiny amounts of resveratrol specifically inhibited the formation of pro-inflammatory metabolites of arachidonic acid.

Supports Cardiovascular Health
Enhances Cerebrovascular Circulation

The “French Paradox” has led to extensive research into the physiological effects of the bioactive components of red wine—the active ingredients in Doctor’s Best trans-Resveratrol. To build on evidence of the potent cardiovascular effects of resveratrol seen in animal studies, the focus has now shifted to working with human samples. In 20 healthy adults examined before and after 15 days of controlled wine consumption, an increase in blood nitric oxide (NO) production was reported. Nitric oxide is a gas responsible for signaling the smooth muscle in blood vessels to relax, thus promoting healthy circulatory function. In a particularly convincing study using blood vessel tissue derived from humans, resveratrol promoted nitric oxide–induced vascular relaxation and overall enhanced endothelial (blood vessel) function.

Results from a cutting-edge crossover study published in 2010 provide exciting new evidence of other possible benefits of resveratrol supplementation. In this randomized, double-blind, placebo-controlled investigation, 22 healthy adults each received placebo, 250mg trans-resveratrol, and 500mg trans-resveratrol on separate days. In a dose-dependent fashion, supplementation with trans-resveratrol resulted in higher cerebral blood flow in the prefrontal cortex during cognitive tasks (compared to placebo). The researchers also measured the bioavailability of their supplements, confirming that resveratrol and its metabolites were present in the blood following supplementation at both doses. They concluded that resveratrol, when taken orally, can influence brain function.

Facilitates Potent Antioxidant Activity
Supports the Integrity and Activity of Neuronal Cells

Although the mechanisms behind all its actions are not yet fully understood, resveratrol is revered for its antioxidant functions. Scientists do know that resveratrol counters lipid peroxidation both by the chelation of copper and the quenching of free radicals. In one of many in vitro trials investigating its antioxidant functions, trans-resveratrol worked at 95% efficiency to deter lipid peroxidation. Under the same oxidative stress load, vitamins E and C worked at efficiencies of only 65% and 37%, respectively. In a 2010 study, researchers observed resveratrol’s action on erythrocytes (red blood cells) derived from 23 healthy volunteers. When the erythrocytes were subjected to oxidative stress, resveratrol protected the cell glutathione levels—evidence of protection from oxidative stress.

Numerous studies have examined the role of resveratrol in protecting the nervous system from oxidative damage. In one such study the researchers examined resveratrol’s action on in vitro brain cell samples and noted less depletion of the antioxidant glutathione, less accumulation of oxidative agents, and less neuronal damage. These scientists also noted a protective role from sirtuin activity, revealing that the benefits of resveratrol in this scenario can be multifactorial. In a recent study, resveratrol prevented an increase in acetylcholinesterase activity in rats, which helped preserve their cognitive function—memory in particular. These observations led to conclusions that resveratrol may help ameliorate oxidative stress that occurs in several areas of the brain, thereby influencing neurotransmission. Several previous studies, such as one showing preserved cognitive function in rats (presumably from resveratrol’s antioxidant activity), build a strong case for the usefulness of resveratrol in supporting brain function in mammals.

May Enhance Healthy Glucose Metabolism

Perhaps the most intriguing aspect of resveratrol activity is its apparent ability to increase the longevity of numerous species—ranging from simple organisms, like yeast, to those with complex genomes, like mice. In several organisms, both caloric restriction and resveratrol consumption have demonstrated the ability to activate sirtuins, a group of proteins that have been linked to aging, metabolism, and cellular stress tolerance. Activation of sirtuins is a proposed mechanism behind resveratrol’s apparent ability to extend the lifespan of yeast, worms, fruit flies, and vertebrate fish. Since dietary restriction in humans can in many respects lead to a higher quality of life during the aging process, the prospect of a compound that mimics this dietary restriction garners great attention in the scientific community.

A groundbreaking study published in 2006 demonstrated the ability of resveratrol to shift the physiology of mice consuming excess calories (including some of the health concerns instigated by excessive diets) to one of mice consuming a standard diet—all without significant changes in body weight. In simpler terms, the resveratrol enabled the overeating mice to have a level of health enjoyed by mice that ate a proper diet. In a subsequent study using mice, researchers concluded that resveratrol seemed to mimic the effect of a restricted-calorie diet at the transcriptional (genetic) level, and was able to benefit tissues of the heart, liver, and muscle in a manner similar to dietary restriction. These results are reinforced by yet another study where researchers found that, in mice, a low dose of resveratrol mimicked the effects of a restricted-calorie diet on gene expression in

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vital organs that affect aging; however, the researchers concluded that in this case it was due to factors other than influence on sirtuins. More research is needed to fully comprehend how resveratrol works, but the volumes of papers published attest to the multifaceted wonders of resveratrol and its companion red wine phenolic compounds.

Lastly, it should be mentioned that a good deal of interest has been generated by the apparently favorable actions of resveratrol on glucose metabolism, as seen in animal studies. A recent in vitro study demonstrated transresveratrol’s influence on how skeletal muscle responds to glucose, presumably through the action of sirtuins. Furthermore, a 2010 in vitro resveratrol study even shows positive metabolic interactions with human fat cells. While the implications of results like these are provoking, clinical trials need to be conducted to determine the degree of practicality for such uses of resveratrol.

In sum, more research is needed to fully comprehend how resveratrol works inside the human body, but the volumes of in vitro and in vivo data attest to the multifaceted potential of the compounds found in a bottle of Doctor’s Best trans-Resveratrol.

SAFETY
Most studies have shown that resveratrol is rapidly absorbed and metabolized in humans. In a 2010 review of safety data from human studies that administered resveratrol at high doses, no serious side effects were reported. Although long-term data is not available for humans, long-term resveratrol supplementation at moderate to high (but not extremely high) doses in rodents did not produce side effects. Because human research is limited, pregnant women should check with a physician prior to using the product.

SCIENTIFIC REFERENCES

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