



SMALL MOLECULE TECHNOLOGIES, INC.

MOLECULES & HEALTH

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Red Wine, Resveratrol, and Brain Health



You may have heard that a daily glass of red wine may offer you some health benefits. While this may be the case, we understand that many people do not wish to consume alcohol and we certainly do not promote daily or excessive consumption of alcohol. However, we do understand that red wine and grapes (*Vitis vinifera*) contain some very important compounds and antioxidants that have been shown to have promising effects against a number of diseases and health conditions.

There have been countless studies published on the benefits seen from compounds found in grapes and red wine, with some of the most promising research being conducted on the antioxidant

trans-resveratrol. This is one of the reasons that all of the Small Molecule Technologies Supplements contain trans-resveratrol in the form of grapevine and red wine extract. The grapevine is actually one of the most potent sources of trans-resveratrol, providing an excellent source for supplements since it is not used for food or winemaking.

Did you know? *Vitis vinifera* is a latin term that refers to a specific species of grapevine native to the Mediterranean region including Southern Europe. The grapes from *Vitis vinifera* are used to make some of the finest European wines and are potent sources of trans-resveratrol. Small Molecule Technologies products selectively use trans-resveratrol extracted and purified from the vines of *Vitis vinifera* and the red wine extract produced from *Vitis vinifera* grapes.

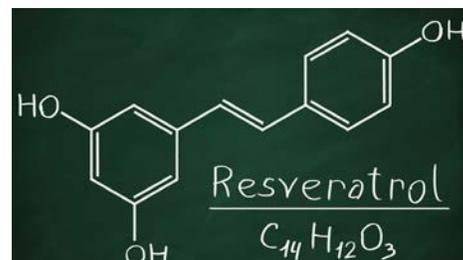
It is important to note that the negative effects of alcohol greatly outweigh any benefits you might receive from excessive consumption of red wine, so you should never attempt to “supplement” resveratrol by drinking more wine. The use of grapevine and

red wine extracts allows us to safely provide you with the most beneficial compounds found in grapevines and red wine without exposing you to the undesirable effects of alcohol.

Trans-resveratrol and Brain Health

While trans-resveratrol has been shown to have significant benefits for a wide variety of health conditions, some of the most recent and exciting research pertains to the role of trans-resveratrol in preventing, slowing, or even treating some brain or neurological disorders including Alzheimer’s disease

A clinical study was released showing that supplementing with trans-resveratrol had favorable effects in lowering specific biomarkers of Alzheimer’s disease, leading researchers to conclude that trans-resveratrol likely plays a role in slowing the progression or even preventing Alzheimer’s



disease.¹ Specifically, the research indicated that supplementing trans-resveratrol might help shift the balance and prevent the build-up of amyloid-beta protein in the brain.

Studies have also shown that resveratrol helps to facilitate the breakdown of beta-amyloid that is associated with Alzheimer's disease and protects the brain from beta-amyloid toxicity. It has also been shown to have protective effects by regulating several enzymatic pathways in the brain such as neuronal AMP kinases, mitogen-activated protein enzymes (MAP kinases), and SIRT-1.^{2,3}

Other Potential Benefits from Trans-Resveratrol

Many times, several medical conditions exist at the same time in a single patient. That is to say, people who are obese also have an increased risk of cancer, diabetes, and heart disease. Someone with diabetes has a much greater risk of developing Alzheimer's disease and cardiovascular disorders. The fact that trans-resveratrol has proven benefits in such a wide variety of these conditions simply highlights the important role that it can play in promoting optimum health and longevity.

- **Cardioprotective** – resveratrol has been shown to exhibit many cardioprotective effects especially in relation to atherosclerosis, hypertension, ischemia, heart failure, and reperfusion injury⁴⁻⁶

- **Neuroprotective** – in addition to the previously cited effects in Alzheimer's disease, resveratrol has demonstrated neuroprotective effects in a variety of condi-

tions including traumatic brain injury and neurodegenerative disorders like multiple sclerosis and ALS^{4,7-9}

- **Obesity** – positive effects have been seen in reducing fat accumulation, lipid deposition, and abdominal obesity^{2,4}

- **Type-II Diabetes** – studies indicate positive effects on insulin response, insulin sensitivity, plus protective effects against other complications of diabetes including heart disease^{4,5,10-12}

- **Cancer prevention** – positive results seen against skin, prostate, breast, colon, gastric, and liver cancer plus many more^{4,13,14}

- **Anti-Inflammatory** – resveratrol has been shown to modulate inflammatory responses and reduce the effects of pro-inflammatory cytokines and interleukins^{4,7}

More Than Just Resveratrol

While resveratrol is a potent antioxidant with many positive health benefits, it is important to remember that there are many other protective nutrients and antioxidants provided by dietary sources. Many studies have iden-



tified the Mediterranean diet as one that promotes health and longevity and pointed out that the frequent consumption of grapes and red wine may play an important role in this. However, they have also discovered that the frequent consumption of olives and olive oil, spices like turmeric, plant-based prebiotic fiber, and sulfur-containing vegetables like broccoli play a large role in the benefits seen with a Mediterranean Diet.



Small Molecule Technologies Supplements were designed to provide some of the most beneficial and well-studied nutrients found in the Mediterranean Diet. They contain some of nature's most potent antioxidants from sources with well-established health benefits including hydroxytyrosol from olives, EGCG from green tea, curcumin from turmeric, and sulforaphane from broccoli. When you incorporate the Small Mol-

ecule Technologies Supplements into your daily routine, you know you are giving your body some of the most beneficial naturally occurring dietary compounds ever discovered.



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