Grape seed extract

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Grapes, the seeds of which are used to produce grape seed extract

Grape seed extracts are industrial derivatives from whole grape seeds that have a great concentration of vitamin E, flavonoids, linoleic acid and phenolic OPCs. The typical commercial opportunity of extracting grape seed constituents has been for chemicals known as polyphenols having antioxidant activity in vitro.

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Potential anti-disease effects

Human case reports and results from laboratory and animal studies provide preliminary evidence that grape seed extract may affect heart diseases such as high blood pressure and high cholesterol.[1] By limiting lipid oxidation, phenolics in grape seeds may reduce risk of heart disease, such as by inhibiting platelet aggregation and reducing inflammation.[2] While such studies are promising, more research including long-term studies in humans is needed to confirm initial findings.

A polyphenol contained in grape seeds is resveratrol, which may interfere with cancer cell growth and proliferation, as well as induce apoptosis, among other potential chemopreventive effects.[3][4]

Preliminary research shows that grape seed extract may have other possible anti-disease properties, such as in laboratory models of

• wound healing --- OPCs induced vascular endothelial growth factor and accelerated healing of injured skin in mice[5]
• tooth decay -- seed phenolics may inhibit oral sugar metabolism and retard growth of certain bacteria that cause dental caries[6]
• osteoporosis -- grape seed extracts enhanced bone density and strength in experimental animals [7]
• **skin cancer** -- grape seed proanthocyanidins decreased tumor numbers and reduced the malignancy of papillomas[8]
• **ultraviolet** damage to skin -- dietary proanthocyanidins may protect against carcinogenesis and provide supplementation for sunscreen protection[9]
• anti-viral[10][11]
• hepatoprotection[12]
• venous insufficiency and edema[13]

There are 13 clinical trials (January, 2012) assessing potential effects of grape seed extracts on human diseases, such as breast cancer, blood estrogen levels in postmenopausal women, and coronary artery disease[14]

**Research**

A recent randomized, double-blind, placebo-controlled crossover trial with 50 adults with coronary disease or ≥1 cardiac risk factors treated with muscadine grape seed supplementation concluded that: "Four weeks of muscadine grape seed supplementation in subjects with increased cardiovascular risk did not produce a statistically significant increase in brachial flow-mediated vasodilation or a significant change in other biomarkers of inflammation, lipid peroxidation, or antioxidant capacity. However, the muscadine grape seed supplement did result in a significant increase in resting brachial diameter. The clinical significance of the effect on resting diameter is not yet established."[15]

However, a 2011 meta-analysis of randomized controlled trials, concluded that "grape seed extract appears to significantly lower systolic blood pressure and heart rate, with no effect on lipid or C-reactive protein levels."[16]

The US National Center for Complementary and Alternative Medicine (NCCAM) reported that oral administration of grape seed extract was well tolerated in people over 8 weeks of a clinical trial.[17] In one completed clinical trial, grape seed extract did not alleviate the hardening of breast tissue in female patients undergoing radiation therapy to treat breast cancer.[18]

A 2012 laboratory study showed that grape seed extract killed head and neck cancer cells while leaving healthy cells unharmed.[19]

**Dosage, precautions and interactions**

In a 12-month study, the safety of dietary intake of grape seed proanthocyanidins in a dose of 100 mg per kg per day was demonstrated in rodents.[20]

Oral grape seed extract is used in capsules or tablets usually containing 50 mg or 100 mg. Insufficient scientific information is known, however, about how long-term use of grape seed extract might affect health or any disease.

**Side-effects and cautions, other NCCAM advisories.**

• In general, grape seed extract is well tolerated when taken by mouth, although it is better tolerated when encapsulated, as its taste is bitter. It has been used safely for up to 8 weeks in clinical trials.
• Side-effects most often include headache, a dry, itchy scalp, dizziness, or nausea
• Interactions between grape seed extract and medicines or other supplements have not been carefully studied
Due to the possible action of proanthocyanidins on limiting platelet adhesion,[21] grape seed extract may act as a blood-thinner, increasing clotting time.

References

4. BBC news - December 2008 - Grape extract kills cancer cells

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.