

Grape seed

Overview:

The medicinal and nutritional value of grapes (*Vitis vinifera*) has been heralded for thousands of years. Egyptians consumed this fruit at least 6,000 years ago, and several ancient Greek philosophers praised the healing power of grapes -- usually in the form of wine. European folk healers developed an ointment from the sap of grapevines to cure skin and eye diseases. Grape leaves were used to stop bleeding, inflammation, and pain, such as the kind brought on by hemorrhoids. Unripe grapes were used to treat sore throats and dried grapes (raisins) were used to heal consumption, constipation, and thirst. The round, ripe, sweet grapes, were used to treat a range of health problems including cancer, cholera, smallpox, nausea, eye infections, and skin, kidney, and liver diseases.

Seedless varieties were developed to appeal to fickle consumers, but researchers are now discovering that many of the health properties of grapes may actually come from the seeds themselves.

Among other beneficial effects, the active compounds in grape seed are believed to have antioxidant properties. In fact, a recent study of healthy volunteers found that supplementation with grape seed extract substantially increased levels of antioxidants in the blood. Antioxidants are substances that destroy free radicals -- damaging compounds in the body that alter cell membranes, tamper with DNA (genetic material), and even cause cell death. Free radicals occur naturally in the body, but environmental toxins (including ultraviolet light, radiation, smoke, certain prescription and non-prescription drugs, and air pollution) can also increase the number of these damaging particles. Free radicals are believed to contribute to the aging process as well as the development of a number of health problems, including heart disease and cancer. Antioxidants found in grape seeds can neutralize free radicals and may reduce or even help prevent some of the damage they cause.

Plant Description:

Grapes are native to Asia near the Caspian Sea, but were brought to North America and Europe around the 1600s. This plant's climbing vine has large, jagged leaves, and its stem bark tends to peel. The grapes may be green, red, or purple.

What's It Made Of?:

Vitamin E, flavonoids, linoleic acid, and compounds called procyanidins (also known as condensed tannins, pycnogenols, and oligomeric proanthocyanidins or OPCs) are highly concentrated in grape seeds. These healthful compounds can also be found in lower concentrations in the skin of the grape.

Procyanidins are also found in grape juice and wine, but in lower concentrations. Resveratrol is another of grape's healthful compounds which are related to procyanidins and found mainly in the skins. Resveratrol has gained much popularity as an antioxidant supplement.

Medicinal Uses and Indications:

Today, health care professionals use standardized extracts of grape seed to treat a range of health problems related to free radical damage, including blood sugar regulation problems, heart disease, and cancer. Studies in laboratories, animals, and people lend some support to these uses.

Flavonoids found in red wine have been reported to protect the heart. They may inhibit the oxidation of LDL ("bad") cholesterol. (LDL oxidation which can lead to hardening of the arteries or atherosclerosis). Studies have demonstrated a relationship between flavonoid intake (from foods) and reduced risk of death from coronary heart disease.

The Mediterranean diet is comprised of whole grains, fresh fruits and vegetables, fish, olive oil, and moderate, daily wine consumption. In a long-term study of 423 patients who suffered a heart attack, those who followed a Mediterranean diet had a 50 - 70% lower risk of recurrent heart disease compared with controls who received no special dietary counseling. Some researchers believe that some of the beneficial effects of the Mediterranean diet are due to flavonoids found in red wine. (Another well-known theory along these lines is called "The French Paradox." The belief is that drinking wine protects those living in France from developing heart disease at as high a rate as those living in the United States, despite the rich fatty foods they eat.)

Others speculate that the healthful effects of moderate wine consumption are due to its alcohol content and not its flavonoid content. If the flavonoids are contributing to heart protection, then grape seed extracts offer an important alternative to alcohol, particularly given the down sides of drinking alcohol (see below). A third concept is being proposed by a group of researchers who believe that the beneficial effects of wine may be triggered by a complex interaction of alcohol and flavonoids. As the controversy of which ingredient in wine is the most important continues, both grape seed extracts and red wine continue to be promoted for heart health. In addition, several test tube

and animal studies confirm that antioxidants from grapes offer cardioprotection in their own right.

It is also important to note that the use of alcohol is not advocated by the American Heart Association and other organizations because of the potential for addiction and the other serious repercussions, such as motor vehicle accidents and the development of hypertension, liver disease, breast cancer, and weight gain. If you do drink red wine, you should have no more than 2 glasses (20 g ethanol) per day.

High cholesterol

A study of 40 people with high cholesterol assessed the effects of grape seed extract, chromium, a combination of both, or placebo for 2 months. The combination of grape seed extract and chromium was more effective than either substance alone or placebo in reducing total and LDL ("bad") cholesterol.

A more recent study tested the effects of a patented grape seed extract on lipid peroxidation (which aids in the formation of "bad" cholesterol) in a group of heavy smokers. Twenty-four healthy male smokers, (aged 50 years or greater) were given either placebo or 2 capsules (75 mg of a grape procyanidin extracts and soy-phosphatidylcholine), twice daily for 4 weeks. "Bad" cholesterol levels (low density lipoprotein or LDL) were lower in those taking the grape seed supplement than those on placebo. The authors concluded that grape seed extract may help prevent cholesterol oxidation and further damage to the cardiovascular system in people who smoke.

High blood pressure

Antioxidants, such as grape seed, help protect blood vessels from damage. Damaged blood vessels can lead to an increased demand on the heart. In several animal studies, a grape seed extract substantially reduced blood pressure. Human studies are needed to determine whether grape seed extract confers the same benefits to people with high blood pressure.

Pancreatitis

In one recent study of only three patients with chronic pancreatitis (inflammation of the pancreas), a commercially available grape seed extract significantly reduced the frequency and intensity of abdominal pain after conventional medications failed to improve symptoms. Further studies are needed to confirm these preliminary findings.

Cancer

Studies have found that grape seed extracts may prevent the growth of breast, stomach, colon, prostate, and lung cancer cells in the laboratory. Grape seed extract may also be effective in preventing damage to human liver cells caused by chemotherapy medications. Antioxidants, such as grape seed extract, have been reported beneficial in cancer prevention. Although grape seed has not been studied in humans for its anticancer effects, the antioxidant properties of grape seed are proven beneficial. Talk to your doctor or pharmacist before combining antioxidants with any chemotherapy drugs to make sure they interact safely together.

Other conditions

Health care professionals may recommend grape seed extract for a variety of circulatory ailments (including varicose veins and chronic venous insufficiency). Grape seed may also be used for other diseases related to free radical damage (oxidation), including blood sugar regulation and age-related macular degeneration, an eye disorder that develops with age and can lead to blindness. Grape seed extract may help improve night vision and photophobia (sensitivity to light) as well.

Grape seed extract may also be helpful in those with asthma and allergies. Several studies support the use of proanthocyanidins, such as those found in grape seed, as a supplement for allergic conditions (including airborne and food allergies).

Available Forms:

Grape seed is available as a dietary supplement in capsules, tablets, and liquid extracts. Look for products that are standardized to 40 - 80% proanthocyanidins or an OPC content of not less than 95%.

How to Take It:

Pediatric

There are no known scientific reports on the pediatric use of grape seed. Therefore, grape seed extracts and supplements are not currently recommended for children. Whole grapes, however, make a healthy and safe snack for children.

Adult

To help keep the body health and protect against free radical damage (oxidation), take 25 - 150 mg of a standardized extract (40 - 80% proanthocyanidins or 95% OPC value), 1 - 3 times daily.

Precautions:

The use of herbs is a time-honored approach to strengthening the body and treating disease. Herbs, however, contain components that can trigger side effects and interact with other herbs, supplements, or medications. For these reasons, herbs should be taken with care, under the supervision of a health care provider qualified in the field of botanical medicine.

At the recommended dosage, grape seed is considered safe. However, pregnant or breastfeeding women should avoid grape seed supplements.

Possible Interactions:

There are no known scientific reports of interactions between grape seed and conventional medications. However, the proanthocyanidin component of grape seed may increase the chances for bleeding. If you are taking blood thinning medications or have bleeding disorders, do not use grape seed without the supervision of a health care provider.

Alternative Names:

Vitis vinifera

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Supporting Research

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