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Blueberry Extract
60 vegetarian capsules
Item Catalog Number: 914

When researchers analyzed fruits and vegetables for their antioxidant capability, blueberries came out on top, rating highest in their capacity to destroy free radicals.1 Just this year, scientists have discovered mechanisms to explain how blueberries can improve memory and restore healthy neuronal function to aged brains. The astounding conclusion of researchers was that the favorable effects of blueberries on brain function are analogous to those seen with long-term calorie restriction.2,3

Blueberry extracts help maintain healthy blood flow via several mechanisms including healthy LDL oxidation, normal platelet aggregation, and maintenance of endothelial function.*

Blueberry's most active constituents
The two most active constituents found in this health-promoting fruit are anthocyanins and pterostilbene. Blueberry anthocyanins are considered nature's most potent antioxidants and have demonstrated properties that extend well beyond suppressing free radicals. Pterostilbene is another blueberry constituent that helps maintain healthy lipid and glucose levels that are already within healthy ranges.5 Even more exciting is that through its unique biological effects, pterostilbene may help maintain healthy DNA structure.6

The ratio of extracts in Blueberry Extract Capsules is a combination of highly concentrated wild blueberry (not cultivated). These extracts are standardized to natural compounds that have the highest physiological activity for the health benefits associated with consumption of fresh blueberries. Blueberry extract capsules contain a whole fruit extract base to provide a broad spectrum of naturally occurring nutrients found in fresh wild blueberries.

References
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Supplement Facts

Serving Size 1 capsule
Servings Per Container 60
Amount Per Serving

Wild Blueberry (*Vaccinium angustifolium*) 100% powder extract (whole fruit) [std. to 1.5% Anthocyanins (5.25 mg)]	350 mg
VitaBlue® Wild Blueberry (*Vaccinium angustifolium*) 150:1 extract (fruit) [std to 1000 ppm Pterostilbene (0.1 mg), and 1% Anthocyanins (1 mg)]	100 mg
VitaBlue® Wild Blueberry (*Vaccinium angustifolium*) 130:1 extract (fruit) [std. to 40% Total Phenolics by UV (20 mg), and 12.5% Anthocyanins (6.25 mg)]	50 mg

Other ingredients: rice flour, vegetable capsule, magnesium stearate, silica.

Contains rice. This product contains NO milk, egg, fish, peanuts, crustacean shellfish, soybeans, tree nuts, wheat, yeast, gluten, or corn. Contains NO sugar, and no artificial sweeteners, flavors, colors, or preservatives.

VitaBlue® is a registered trademark of VDF FutureCeuticals, Inc.

Dosage and Use

- Take one capsule one to four times daily, with or without food, or as recommended by a healthcare practitioner.

Warnings

- Keep out of reach of children.
- Do not exceed recommended dose.
- Do not purchase if outer seal is broken or damaged.
- If you have a bad reaction to product discontinue use immediately.
- When using nutritional supplements, please inform your physician if you are undergoing treatment for a medical condition or if you are pregnant or lactating.

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All About SUPPLEMENTS

Blueberries

Packed with Health-Promoting Polyphenols, Blueberries May Help Preserve Cognition and Protect the Nervous System

By Tiesha D. Johnson, BSN, RN





Today, more and more health-conscious adults are discovering the health-enhancing properties of blueberries. New studies confirm that these delicious berries are one of the most promising nutritional agents available for fighting the effects of aging, conferring benefits that range from helping protect against cancer to preserving youthful-looking skin.[1,2]

However, the most profound health effect associated with blueberries may well be their remarkable ability to protect the brain from the degenerative effects of aging and even injury. Blueberries are loaded with powerful antioxidant compounds known polyphenols that protect brain cells against damaging inflammation and oxidative stress, and can arrest and even reverse age-related decline in cognitive and motor functions.[3-5] These phenolic compounds include anthocyanins, which are particularly beneficial for brain health.[3,4,6]

Blueberries Benefit Memory and Cognition

Free radical attack on brain cells is an important contributor to age-related cognitive decline.[7] In experiments with laboratory animals, plant-derived antioxidants such as those contained in blueberries effectively reversed age-related decline in memory and cognition.[8] Additional laboratory evidence demonstrates that increasing dietary intake of blueberries and other antioxidant-rich fruits and vegetables helps maintain optimal brain cell function and cognition well into old age.[9-11]

Just two years ago, scientists discovered that feeding blueberries to aging rats protected them from age-related memory loss. In fact, when blueberry-supplemented old rats were tested for object recognition memory, their scores resembled those of young rats. This stunning findings suggests that

consuming blueberries may literally help to turn back the clock, restoring youthful levels of function in the aging brain.[10]

Blueberries may work by influencing a region of the brain called the hippocampus, which is primarily responsible for short-term memory. Scientists have found that feeding blueberries to older animals helps to maintain high levels of new cell generation in the hippocampus, which may help to preserve sharp memory function.[12] These findings are supported by other studies indicating that blueberry extracts help prevent memory deficits in adult rats.[13]

Some evidence suggests that blueberries exert their powerful effects on brain health by crossing the blood-brain barrier, a highly selective membrane that determines which blood-borne substances gain access to the brain. One of the challenges faced in developing effective treatments for brain disorders is that very few substances can cross this almost impenetrable barrier. However, after rats consumed a blueberry-supplemented diet, numerous blueberry-derived phytochemicals were found throughout their brains. These blueberry constituents were especially concentrated in areas of the brain related to learning and memory, suggesting that these phytochemicals may benefit these crucial aspects of cognitive function.[3]

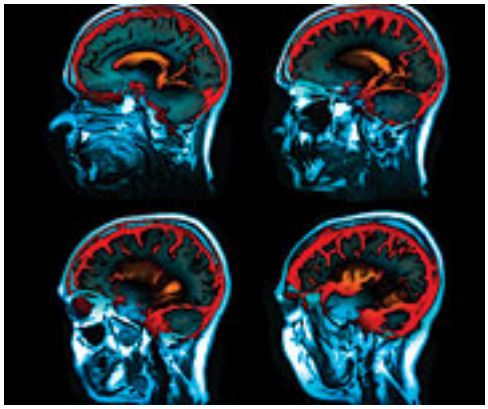
Inflammation, Oxidative Stress Accelerate Brain Aging

The brain is the body's most complex organ and must be in optimal working order to perform its many crucial functions, such as coordinating thought, speech, movement, and memory. The delicate cells of the brain are vulnerable to damage from inflammation and oxidative stress.[12,14] In aging adults, this vulnerability is compounded by a diminished ability to neutralize pro-inflammatory free radicals and reactive oxygen species.[5,8]

Brain cells that have been subjected to excessive oxidative stress over time eventually die and cannot be replaced. The cumulative effects of oxidative stress on the brain are plainly evident in the impaired memory, motor skills, and diminished cognition that many people mistakenly consider to be part of "normal" aging.[3] Some neurodegenerative diseases are also associated with persistent inflammation that further reduces the number and function of brain cells.[15] Finally, conditions that reduce the supply of blood and oxygen to the brain, such as atherosclerosis, can also result in cell damage and death.

Countering Stroke-Induced Brain Damage

Stroke is one of the most dreaded and disabling of all health conditions. Most strokes are acute ischemic strokes, in which a blockage in blood vessels to the brain interrupts the delivery of oxygen- and nutrient-rich blood. Tissue damage ensues immediately from this oxygen deprivation, and the damage continues even after blood flow is restored, due to a rapid influx of damaging reactive oxygen species into the brain.[16] Antioxidants in blueberries may counter stroke-induced tissue damage, since they rapidly neutralize destructive free radicals



and protect against ischemic damage.[17] Since blueberries are one of nature's richest sources of antioxidants, many researchers have sought to determine whether they might help avert the dangers of deadly strokes.

Just last year, a research team examined blueberries' protective effects against stroke-induced brain damage. They found that laboratory rats that were fed a diet fortified with blueberries were far less vulnerable to the effects of experimentally induced ischemic stroke than were animals that had not consumed blueberries. Following an induced stroke, the blueberry-fed rats showed much smaller areas of brain damage as well as improved movement compared to the control group.[18] These findings suggest that regular consumption of blueberries may confer significant neuroprotection against the disabling effects of stroke.

In a similar animal study, blueberries helped protect cells of the brain's memory center—the hippocampus—against damage caused by ischemic stroke. These findings led researchers to suggest that incorporating blueberries in the diet could help improve the outcomes of acute ischemic stroke.[19]

Blueberries May Prevent Alzheimer's Disease

Alzheimer's disease, the most common form of age-related dementia, progressively robs people of their memory and independence. While its precise cause is unknown, scientists believe that oxidative stress contributes to brain cell damage, leading to memory loss and an inability to process new information.[20]

Since blueberries have a protective effect on memory, scientists investigated whether they also protect against Alzheimer's. For this experiment, researchers studied rats with a genetic susceptibility to developing the disease. Astonishingly, they found that a blueberry-supplemented diet caused rats suffering from Alzheimer's-like symptoms to perform normally on tests of memory and motor behavior. The researchers concluded that a diet that includes blueberries may help prevent Alzheimer's, even in those who have a genetic predisposition to the disease.[20]

Blueberries may also support the brain's natural protective mechanisms against stress. When blueberry-fed rats were exposed to an inflammation-provoking toxin, they produced more of a brain-protective protein than did rats that did not eat blueberries. This effect suggests that blueberry supplementation may protect the nervous system against conditions related to oxidative stress and inflammation, such as Alzheimer's and Parkinson's disease.[21]

A Broad Array of Additional Health Benefits

While much of the medical research on blueberries has focused on brain health and cognitive function, emerging evidence suggests that this delicious fruit and its extracts may confer a broad range of far-reaching health benefits.

- Combating the Effects of Smoking. Reactive oxygen species produced by smoking damage cells and tissues throughout the body. Such damage can persist even after a person quits smoking. A study in 2005 found that smokers who consumed 250 grams (about a cup) of blueberries each day for three weeks had dramatically lower blood levels of lipid hydroperoxides, which are molecules that serve as markers of oxidative damage to cell membranes. These findings indicate that daily consumption of blueberries may protect against the oxidative stress produced by smoking.[26]
- Fighting Prostate Cancer. Extracts from blueberries inhibit the growth of certain human prostate cancer cells.[1] Flavonoids found in blueberries may help prevent the spread (metastasis) of prostate cancer to other parts of the body by inhibiting enzymes that cancer cells use to invade other tissues.[27] This research indicates that blueberries could have an important role in fighting prostate cancer.
- Preventing Colon Cancer. Blueberry extracts, which are loaded with antioxidants known as anthocyanins, reduce the rate of colon cancer cell proliferation and increase the rate of cancer cell death in the laboratory.[28] These observations have led investigators to suggest that consuming blueberries may help decrease the risk of colon cancer.[29]
- Improving Cardiovascular Health. The anthocyanins found in blueberries have strong antioxidant properties that reduce the oxidation of low-density lipoprotein (LDL), which is a contributing factor in coronary artery disease. Additionally, blueberry anthocyanins may help protect the heart's muscle cells from the effects of diminished blood flow (ischemia), as may occur during a heart attack.[30] This research points to a role for blueberries in promoting cardiovascular health.
- Maintaining Youthful Skin. As skin ages, it loses its flexibility (elasticity) and becomes increasingly rough in texture. Recently, scientists administered oral supplements containing blueberry extract to a group of women between the ages of 45 and 73. After six weeks of treatment, the subjects' skin was found to be significantly more elastic.[2] The study authors proposed that consuming blueberry extracts may greatly reduce the visible effects of skin aging, thus promoting healthier, more youthful-looking skin.

Protecting Against Parkinson's Disease

While Alzheimer's is a robber of memory, Parkinson's disease impairs one's ability to move freely and easily.[22] Parkinson's patients suffer a progressive loss of movement control due to damage in the coordination centers of the brain, especially to cells that produce the neurotransmitter dopamine. As with Alzheimer's disease, substantial evidence suggests that oxidative stress and increased inflammatory responses play a role in Parkinson's disease.[23,24]

Scientists searching for ways to fight Parkinson's disease are keenly interested in the antioxidant powers of polyphenols contained in fruits such as blueberries. They have tested various flavonoid components to assess their protective effects against oxidative stress and cellular death in dopamine-

producing brain cells.[25] Treating dopamine-producing cells from motion-control regions of the brain with flavonoids prior to oxidative damage conferred protection against injury and resulted in an increased rate of cell survival. This led the investigators to conclude that flavonoid molecules, such as those found in blueberries, show promise in protecting against the early effects of Parkinson's disease.

Fresh Blueberries Versus Blueberry Extracts

Fresh blueberries may not be readily available year-round. Moreover, even people who love the taste of this delicious fruit may find it difficult to eat blueberries every day. Therefore, scientists have investigated whether blueberry extracts provide all the brain-boosting benefits of blueberries. They found that ingesting blueberry extracts does in fact provide the same anti-inflammatory and antioxidant benefits gained from eating the whole fruit.[31]

Conclusion

New findings suggest that blueberries naturally confer a wealth of health-protective benefits. Rich in antioxidants that combat oxidative stress and inflammation, blueberries and blueberry extracts may help to preserve youthful cognitive function and protect against disabling neurodegenerative diseases and crippling strokes.

Moreover, a steady stream of emerging research suggests that blueberries may offer a broad array of additional health benefits, such as protecting against cancer, supporting cardiovascular health, and promoting youthful skin. Ongoing research is likely to uncover even more health benefits associated with this delicious fruit.

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