GENESTRA BRANDS®

SelenoPhenol

Selenium and blueberry antioxidant combination

- Provides 200 mcg of selenomethionine, a bioavailable, organic form of selenium, per daily dose
- Includes 50 mg of blueberry extract (1.5 g fresh fruit equivalent) per daily dose
- Source of antioxidants that help protect against oxidative stress
- Helps to maintain normal thyroid gland function and prevent selenium deficiency

SelenoPhenol supports antioxidant defence and helps maintain thyroid gland function with a unique combination of selenium and blueberry extract. Selenium is offered in the bioavailable, organic form of selenomethionine, the predominant form found in foods.[1] In the body, selenium is an important component of the antioxidant enzyme glutathione peroxidase, which helps decrease oxidative damage to maintain healthy lipids, protein and DNA.[2] This mineral is also highly concentrated in the thyroid gland, where it helps support normal thyroid function.[2] Selenium plays a role in thyroid hormone metabolism, while decreasing the oxidative damage produced during this metabolic process.[2,3] For additional antioxidant support, SelenoPhenol includes blueberry fruit extract. Blueberries are known for their high concentration of anthocyanins, which provide effective antioxidant activity and may cross the blood-brain barrier.[4,5] As oxidative stress may increase over time, individuals, particularly the elderly, may experience benefits from increasing their daily antioxidant intake.[4,5]

EACH CAPSULE CONTAINS:

Selenium (selenomethionine)	200 mcg
Blueberry Fruit Extract (*Vaccinium angustifolium*) (30:1)	50 mg
1.5 g Fresh Fruit Equivalent	

Non-Medicinal Ingredients: Cellulose, hypromellose, silica

Recommended Dose
Adults: Take 1 capsule daily or as recommended by your healthcare practitioner.

Product Size
60 Vegetarian Capsules

Product Code
04236

NPN 80088861

Non GMO · Gluten Free · Dairy Free · Vegan

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SelenoPhenol

Scientific Rationale:

Selenium is an essential trace element.[1] It is found in both plant and animal products, such as meat, seafood, milk, cereals, fruits and vegetables.[2] Although the selenium content of animal products is relatively consistent, selenium levels may vary in plants depending on the mineral availability of the soil.[2] As a result, it has been suggested that selenium intake may be lower among vegetarians of certain geographic regions.[2]

A majority of selenium in foods occurs in the well-absorbed organic form of selenomethionine (over 90% bioavailable), but can be found to a lesser extent as selenocysteine.[2,3] Selenium is also present in certain supplements in the inorganic forms of selenate and selenite, although their bioavailability is greatly reduced (at least 50% is absorbed).[3] Once consumed, selenium is incorporated into selenoproteins, which help support antioxidant defence and metabolize thyroid hormones.[3]

Selenoproteins are key components of the antioxidant defence system, helping to prevent the formation and stop the propagation of free radicals.[1] Free radicals may be generated by environmental sources (such as heavy metals, drugs or ultraviolet rays) or formed during normal metabolic reactions, playing important roles in cell signalling, differentiation and immune cell function.[1,4] Under normal cellular conditions, antioxidant protection balances free radical production; however, increases in free radical formation or reduced antioxidant activity can result in oxidative stress.[1] In turn, this can damage lipids, protein and DNA, impairing the integrity of the cell membrane as well as normal cell function.[1]

Selenium supports the body as a component of glutathione peroxidases, important antioxidant enzymes.[1] Five of these selenium-containing enzymes are present throughout the body, including in the cell cytosol, gastrointestinal tract, extracellular space and plasma, cell membrane and sperm, and nasal epithelium and embryonic tissues.[1] Selenium is also incorporated into thioredoxin reductases, enzymes that further contribute to the regulation of antioxidant and redox reactions in cells.[1] In addition to its role in selenium-dependent antioxidant enzymes, this mineral can directly scavenge free radicals and bind metal ions to provide enhanced antioxidant support.[5]

Although the body naturally defends against oxidative stress, these processes can become overwhelmed.[6] As such, people may benefit from increasing external antioxidant intakes.[6] Research suggests that selenomethionine consumption can help increase tissue selenium levels.[3] In one 28-month trial, daily intake of 200 mcg of selenomethionine elevated plasma selenium concentrations in healthy adults.[7] Another randomized trial reported that supplementation with the same selenomethionine dose for approximately two to four weeks significantly increased serum selenium levels when compared to both control and baseline values.[8]

In an animal study, daily selenium supplementation significantly increased the activity of antioxidant enzymes glutathione peroxidase and superoxide dismutase, while decreasing the level of malondialdehyde (MDA, a marker of lipid peroxidation) when compared to a control diet.[9] Specifically, selenium from organic sources (including selenomethionine) led to greater increases in glutathione peroxidase activity and selenium levels in the leg and breast muscles when compared with the inorganic sodium selenite.[9] Similarly, daily supplementation with 80 mcg of selenomethionine for three months significantly increased plasma selenium and whole-blood glutathione peroxidase activity when compared to the placebo in a randomized, double-blind trial involving adults 60–80 years old.[10]

High levels of selenium are found in the thyroid gland, where selenoproteins contribute additional health benefits.[11] Selenium is a component of deiodinases, enzymes involved in the metabolism of thyroid hormones.[11] These enzymes are responsible for the conversion of thyroxine (T4) to its biologically active form triiodothyronine (T3), as well as the inactivation of T3 and T4.[1] The selenium-containing enzymes glutathione peroxidase and thioredoxin reductase further support thyroid health by reducing oxidative damage generated during the production of these hormones.[11] In one trial, supplementation with 83 mcg of selenomethionine daily for four months supported thyroid gland function in adults.[12]

Like selenium, blueberries are well-recognized for their antioxidant effects, resulting primarily from their high anthocyanin content.[4,6] Specifically, blueberries have one of the highest antioxidant capacities as measured by the oxygen radical absorbance capacity (ORAC) assay.[13] Animal research has reported that a diet rich in blueberries provided antioxidant support by promoting hepatic antioxidant enzyme activity and alleviating chemically induced DNA damage.[14] Blueberry anthocyanins may also be important, as they can cross the blood-brain barrier.[13] As the body's ability to protect against and repair damage due to oxidative stress decreases over time, older individuals may experience particular benefits from increasing their antioxidant intake.[6,13]

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