Schisandra

Common Indications:

- Antioxidant
- Hepatoprotective
- Adaptogenic
- Antitumor
- Antidiabetic
- Immunomodulatory
- Neuroprotective
- Antiallergic
- Cardiovascular effects

General Comments:

Schisandra is a woody vine with numerous clusters of tiny, bright red berries. It is found throughout northern and northeast China and the adjacent regions of Russia and Korea. The fully ripe, sun-dried fruit is used medicinally. It has sour, sweet, salty, hot, and bitter tastes. This unusual combination of flavors is reflected in schisandra's Chinese name wu- wei-zi, meaning "five taste fruit."

Schisandra has been used in Chinese medicine for centuries as a kidney tonifying agent and sedative. It has historically been used to treat cough and wheezing, spontaneous sweating, chronic diarrhea, insomnia and forgetfulness. In Russia, schisandra has been used as an adaptogen, increasing the body's natural ability to fight off disease and stresses from chemical, physical, mental and environmental sources. Schisandra has been reported to increase human endurance and mental and physical performance.

Benefits & Mechanism of action:

Much of the research on the physiological effects of schisandra has been published in Chinese, Japanese or Russian journals. For the most part, it has been performed on purified lignans or lignin extracts, making it difficult to extrapolate the results for whole berries. Major areas of research include hepatoprotective, immunomodulatory, cardiovascular, anti- inflammatory, neuroprotective and adaptogenic effects.

Hepatoprotective

- Activation of the enzymes in hepatic cells that produce the antioxidant glutathione
- Induction of phase II detoxification processes[3]
- Improvement in viral and drug-induced hepatitis[6]
- Protection against carbon tetrachloride and acetaminophen poisoning
- Enhancing hepatic glutathione antioxidant system
- Gomisin N and γ-schizandrin suppressed nitric oxide synthase and decreased IL1β and inflammatory chemokines synthesis

Adaptogenic and Immunomodulatory

- Improvement of recovery time after exercise
- Improvement the ability to perform concentration-intense tasks
- Decreasing fatigue
- Enhancing faster recuperation and improving physical performance
- Reduction of Sleeping time after sedatives administration
- Anti-inflammatory activity such as decreasing the release of proinflammatory cytokines (TNF-α, IL-6, and GM-CSF)[13]
- Anticancer activity against various human cancer cell lines
- Anti-HIV activity[12,15,16]

Antidiabetic

- Reduction of blood glucose plasma[18,19,20]
- Improvement in hepatic glycogen
- Reduction in lipid concentration and improving lipid panel
- Inducing weight loss by enhancing the basal glucose uptake in hepatic cells
- Inducing hepatic insulin sensitivity[21]
- Inhibition of of α-glucosidase and α--amylase[21]

Neuroprotective

- Having neuroprotective activities been shown in several in vitro and in vivo studies[22,23,24,25]
- Affecting hippocampal neurons[23]
- Working against L-glutamate-induced neurotoxicity[24]
- Improving cognitive function by inhibiting TNF-α, IL-1β, and reversing hyoscine-induced memory impairment[25]

Antiallergic

- Inhibiting eosinophil gathering to pulmonary cells
- Ameliorating the severity of atopic dermatitis
- Reducing the activity of IL-4, IL-5, interferon-γ, and TNF-α.
- Inhibiting prostaglandin D2, Leukotriene C4, β-hexosaminidase, IL-6 and cyclooxygenase-2 in mast cells derived from bone marrow.[13]

Cardiovascular effects

- Schisandrin B reported to have cardioprotective effects against ischemic-reperfusion-induced myocardial damage by enhancing myocardial glutathione antioxidant activity[1]
- Inhibiting the signal of transforming growth factor-β_1 in vascular smooth muscle cells
- Promoting vasodilation in animal studies by enhancing endothelial Nitric Oxide Synthase

Antioxidant

- Schisandra reported to have stronger antioxidant property than vitamin E[5]
- Fortifying mitochondrial antioxidant function and capacity[1,2]
- Schisandrin demonstrated the ability to protect cell linings against oxidative-stressed induced apoptosis[3,4]

Dose:

- 100-200mg, 2 times a day with food of a standardized extract.

*Note: There are various products with different dosages and standardizations to choose from. When choosing a dietary supplement, select those from reputable manufacturers.

Cautions & Side Effects:

- Schisandra has been reported to be safe in recommended doses.
- Schisandra should not be taken during pregnancy due to uterine stimulation.
- Schisandra should not be taken in high doses during acute phases of infection, especially when accompanied by a high fever.

References:

Antioxidant and antitumor

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Hepatoprotective

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Immunomodulatory and Adaptogen

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Antidiabetic

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Neuroprotective

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Antiallergic

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Cardiovascular effects

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