HippEvo
Hippocrates Evolution

Grape Seed Extract (*Vitix vinifera*) seed/skin extract

Common Indications:

- Antioxidant and stabilizes mast cells
- Vascular health, blood flow, reduced capillary fragility, normalizes vascular permeability
- Reduces platelet aggregation
- Reduces colon cancer risk and presents apoptotic effect on cancer cells

General Comments:

Grape seed and skin extract contain proanthocyanidins derived from flavonoids. Proanthocyanidins are present in fresh grapes, juice, red wine, and other darkly pigmented fruits such as cranberry, blackcurrant, and elderberry. An eight ounce serving of grape juice averages 124 milligrams proanthocyanidins, whereas a five ounce serving of red wine averages 91 milligrams.

Benefits & Mechanism of Action:

Procyanidins found in grape seed extract have been shown to beneficially impact the inflammatory processes through reduction of IL-6 and MCP-1 and enhancing the production of adiponectin which is known to optimize the insulin response mechanism. This results in an overall anti-inflammatory effect.[1] This would obviously be beneficial to cardiovascular health and has been shown to reduce platelet aggregation and reduce oxidation of LDL.[12-13] Polyphenols from grade seed have also been shown to lower blood pressure in patient with Metabolic Syndrome.[14]

Proanthocyanidins have been reported to inhibit the release of mediators of inflammation, such as histamine and prostaglandins.[3,6] Proanthocyanidins inhibit the destruction of collagen through its protective action on 1-antitripsin. This action allows grape seed extracts to reduce capillary fragility. Proanthocyanidins neutralize lipid peroxidation damage to cell membranes through their free radical activity.

This dampening of the inflammatory process was shown to benefit risk of Alzheimers by Wang, reducing amyloid-beta deposition and microglia activation.[23]

Grape seed extract was shown to inhibit in vitro and in vivo growth of human colorectal carcinoma cells. GSE causes a significant dose and time dependent inhibition of cell growth with concomitant increase in cell death. GSE induced G1 phase cell cycle arrest. GSE-induced cell death was apoptotic and accompanied by caspase-3 activation. GSE inhibited cell proliferation but increased apoptotic cell death in tumors.[19]

Other benefits of GSE in addressing cancer include inducing mitochondria-associated apoptosis in human acute myeloid leukemia and protection of adriamycin-treated hepatocytes against oxidative damage.[20-21]

DOSE:

- 25-100mg, 1-3 times a day of a standardized extract

STANDARDIZATION:

- Standardized to contain 40-80% proanthocyanidins or a procyanidolic value of not less than 95 and 90% total phenols.

CAUTIONS & SIDE EFFECTS:

- Grape seed extract has been reported to be safe in recommended doses.
- Not be used if there is an allergy to any component of this dietary supplement or to grapes.

References:

ANTI-INFLAMMATORY & GENERAL

1. Banerjee B, Bagchi D. Beneficial effects of a novel IH636 grape seed proanthocyanidin extract in the treatment of chronic pancreatitis. Digestion. 2001;63(3):203-6.

2. Joshi SS, Kuszynski CA, Bagchi D. The cellular and molecular basis of health benefits of grape seed proanthocyanidin extract. Curr Pharm Biotechnol. 2001;2(2):187-200.
Natella F, Belelli F, Gentili V, Ursini F, Scaccini C. Grape seed proanthocyanidins prevent plasma postprandial oxidative stress in humans. J Agric Food Chem. 2002;50(26):7720-5.

3. Ambrogini, Cuppini, et al. Effects of proanthocyanidin on normal and reinnervated rat muscle. Boll Soc Ital Biol Sper. 1995 Jul-Aug;71(7-8):227-34.

ANTIOXIDANT & IMMUNE

4. Chacón MR, Ceperuelo-Mallafré V, Maymó-Masip E, et al. Grape-seed procyanidins modulate inflammation on human differentiated adipocytes in vitro. Cytokine. 2009 Aug;47(2):137-42. Epub 2009 Jun 27.

5. Busserolles J, Gueux E, Balasinska B, Piriou Y, Rock E, Rayssiguier Y, Mazur A. In vivo antioxidant activity of procyanidin-rich extracts from grape seed and pine (Pinus maritima) bark in rats. Int J Vitam Nutr Res. 2006;76(1):22-7.

6. Bielory L. Complementary and alternative interventions in asthma, allergy, and immunology. Ann Allergy Asthma Immunol. 2004;93(2 Suppl 1):S45-54.

7. Sangeetha P, Balu M, Haripriya D, Panneerselvam C. Age associated changes in erythrocyte membrane surface charge: Modulatory role of grape seed proanthocyanidins. Exp Gerontol. 2005;40(10):820-8.

8. Puiggros F, Llopiz N, Ardevol A, Blade C, Arola L, Salvado MJ. Grape seed procyanidins prevent oxidative injury by modulating the expression of antioxidant enzyme systems. J Agric Food Chem. 2005;53(15):6080-6.

CARDIOVASCULAR

9. Fitzpatrick DF, Bing B, Maggi DA, Fleming RC, O'Malley RM. Vasodilating procyanidins derived from grape seeds. Ann N Y Acad Sci. 2002;957:78-89.

10. Vitseva O, Varghese S, Chakrabarti S, Folts JD, Freedman JE. Grape seed and skin extracts inhibit platelet function and release of reactive oxygen intermediates. J Cardiovasc Pharmacol. 2005;46(4):445-51.

11. Vigna GB, Costantini F, Aldini G, et al., Effect of a standardized grape seed extract on low-density lipoprotein susceptibility to oxidation in heavy smokers. Metabolism. 2003;52(10):1250-7.

12. Leifert WR, Abeywardena MY. Cardioprotective actions of grape polyphenols. Nutr Res. 2008 Nov;28(11):729-37. Review.

13. Sano A, Uchida R, Saito M, Shioya N, Komori Y, Tho Y, Hashizume N. Beneficial effects of grape seed extract on malondialdehyde-modified LDL. J Nutr Sci Vitaminol (Tokyo). 2007 Apr;53(2):174-82.

14. Sivaprakasapillai B, Edirisinghe I, Randolph J, Steinberg F, Kappagoda T. Effect of grape seed extract on blood pressure in subjects with the metabolic syndrome. Metabolism. 2009 Dec;58(12):1743-6. Epub 2009 Jul 15.

15. Preuss HG, Wallerstedt D, Talpur N, Tutuncuoglu SO, Echard B, Myers A, Bui M, Bagchi D. Effects of niacin-bound chromium and grape seed proanthocyanidin extract on the lipid profile of hypercholesterolemic subjects: a pilot study. J Med. 2000;31(5-6):227-46.

16. Bagchi D, Sen CK, Ray SD, Das DK, Bagchi M, Preuss HG, Vinson JA. Molecular mechanisms of cardioprotection by a novel grape seed proanthocyanidin extract. Mutat Res. 2003;523-524:87-97.

CANCER

17. Durak I, Cetin R, Devrim E, Erguder IB. Effects of black grape extract on activities of DNA turn-over enzymes in cancerous and non cancerous human colon tissues. Life Sci. 2005;76(25):2995-3000.

18. Brooker S, Martin S, Pearson A, Bagchi D, Earl J, Gothard L, Hall E, Porter L, Yarnold J. Double-blind, placebo-controlled, randomized phase II trial of IH636 grape seed proanthocyanidin extract (GSPE) in patients with radiation-induced breast induration. Radiother Oncol. 2006;79(1):45-51

19. Kaur M, Singh RP, Gu M, Agarwal R, Agarwal C. Grape seed extract inhibits in vitro and in vivo growth of human colorectal carcinoma cells. Clin Cancer Res. 2006;12(20 Pt 1):6194-202.

20. Valls-Belles V, Torres MC, Muniz P, Beltran S, Martinez-Alvarez JR, Codoner-Franch P. Defatted milled grape seed protects adriamycin-treated hepatocytes against oxidative damage. Eur J Nutr. 2006;45(5):251- 8.

21. Hu H, Qin YM. Grape seed proanthocyanidin extract induced mitochondria-associated apoptosis in human acute myeloid leukaemia 14.3D10 cells. Chin Med J (Engl). 2006;119(5):417-21.

RENAL

22. El-Ashmawy IM, El-Nahas AF, Salama OM. Grape seed extract prevents gentamicin-induced nephrotoxicity and genotoxicity in bone marrow cells of mice. Basic Clin Pharmacol Toxicol. 2006;99(3):230-6.

ALZHEIMERS

23. Wang YJ, Thomas P, Zhong JH, Bi FF, Kosaraju S, Pollard A, Fenech M, Zhou XF. Consumption of grape seed extract prevents amyloid-beta deposition and attenuates inflammation in brain of an Alzheimer's disease mouse. Neurotox Res. 2009 Jan;15(1):3-14. Epub 2009 Feb 10.

OTHER

24. Kalin R, Righi A, Del Rosso A, Bagchi D, et al., Activin, a grape seed-derived proanthocyanidin extract, reduces plasma levels of oxidative stress and adhesion molecules (ICAM-1, VCAM-1 and E-selectin) in systemic sclerosis. Free Radic Res. 2002;36(8):819-25.

25. Khanna S, Venojarvi M, Roy S, et al., Dermal wound healing properties of redox-active grape seed proanthocyanidins. Free Radic Biol Med. 2002;33(8):1089-96.

26. Nuttall SL, Kendall MJ, Bombardelli E, Morazzoni P. An evaluation of the antioxidant activity of a standardized grape seed extract, Leucoselect. J Clin Pharm Ther. 1998;23(5):385-9.

27. Preuss HG, Bagchi D, Bagchi M. Protective effects of a novel niacin-bound chromium complex and a grape seed proanthocyanidin extract on advancing age and various aspects of syndrome X. Ann N Y Acad Sci. 2002;957:250-9.

28. Yamakoshi J, Sano A, Tokutake S, Saito M, Kikuchi M, Kubota Y, Kawachi Y, Otsuka F. Oral intake of proanthocyanidin-rich extract from grape seeds improves chloasma. Phytother Res. 2004;18(11):895-9.