Grape

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Grape  
What is it?  
Grapes are the fruit of grapevines. Vitis vinifera and Vitis labrusca are two common grapevine species. Vitis labrusca is commonly known as Concord grape.   
  
The whole fruit, skin, leaves, and seed of grape are used as medicine. Grape contains flavonoids, which can have antioxidant effects. They might help prevent heart disease and have other beneficial effects. Red grape varieties provide more antioxidants than white or blush grape varieties.  
  
People use grape for poor circulation that can cause the legs to swell. It is also used for eye stress, heart disease, high cholesterol, high blood pressure, obesity, and many other conditions. But there is no good scientific evidence to support most of these uses.  
  
Don't confuse grape with grapefruit. These are not the same.  
  
  
  
  
How effective is it?  
Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.The effectiveness ratings for GRAPE are as follows:Possibly effective for...  
Poor circulation that can cause the legs to swell (chronic venous insufficiency or CVI). Taking grape seed extract or proanthocyanidin, a chemical in grape seeds, by mouth seems to reduce symptoms of CVI such as tired or heavy legs and pain.   
Possibly ineffective for...Hay fever. Taking grape seed extract by mouth doesn't seem to decrease seasonal allergy symptoms or the need to use allergy medications.  
Nausea and vomiting caused by cancer drug treatment. Drinking grape juice 30 minutes before meals for a week following each cycle of chemotherapy doesn't seem to reduce nausea or vomiting caused by chemotherapy.  
Overactive bladder. Drinking grape juice doesn't seem to improve overactive bladder in older males.  
Breast pain (mastalgia). Taking proanthocyanidin, a chemical found in grape seed extract, does not reduce breast tissue hardness, pain, or tenderness in people treated with radiation therapy for breast cancer.  
Obesity. Drinking grape juice or taking grape seed extract doesn't seem to reduce weight in overweight people. But it might help lower cholesterol and control blood sugar.  
  
  
There is interest in using grape for a number of other purposes, but there isn't enough reliable information to say whether it might be helpful.  
  
  
Is it safe?  
When taken by mouth: Grapes are commonly consumed in foods. It is possibly safe when the whole fruit or the extract of the fruit, leaf, or seed, are used as medicine. Grape seed extracts and fruit extracts have been used safely for up to 11 months. Eating large quantities of grapes might cause diarrhea. Some people have allergic reactions to grapes and grape products. Some other side effects might include cough, dry mouth, and headache.  
When applied to the skin: Grape seed oil is possibly safe when used for up to 3 weeks. There isn't enough reliable information to know if other parts of grape are safe to use.  
  
  
Special precautions & warnings:  
Pregnancy and breast-feeding: Grapes are commonly consumed in foods. There isn't enough reliable information to know if grape is safe to use in medicinal amounts when pregnant or breast-feeding. Stay on the safe side and stick to food amounts.  
Children: Grapes are commonly consumed in foods. But keep in mind that whole grapes are a potential choking hazard for children aged 5 years and younger. Whole grapes should be cut in half or quartered before being served to children. There isn't enough reliable information to know if grape is safe to use in amounts greater than those found in foods.  
Bleeding conditions: Grape extract might slow blood clotting. Taking grape extract might increase the chances of bruising and bleeding in people with bleeding conditions. But it's not clear if this is a big concern.  
Surgery: Grape extract might slow blood clotting. It might cause extra bleeding during and after surgery. Stop using grape extract at least 2 weeks before a scheduled surgery.  
  
  
Are there interactions with medications?  
ModerateBe cautious with this combination.Cyclosporine (Neoral, Sandimmune)Drinking purple grape juice along with cyclosporine might decrease how much cyclosporine the body absorbs. This could decrease the effects of cyclosporine. Separate doses of grape juice and cyclosporine by at least 2 hours to avoid this interaction.Medications changed by the liver (Cytochrome P450 1A2 (CYP1A2) substrates)Some medications are changed and broken down by the liver. Grape might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.Medications changed by the liver (Cytochrome P450 2D6 (CYP2D6) substrates)Some medications are changed and broken down by the liver. Grape might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.Medications changed by the liver (Cytochrome P450 2E1 (CYP2E1) substrates)Some medications are changed and broken down by the liver. Grape might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.Medications changed by the liver (Cytochrome P450 3A4 (CYP3A4) substrates)Some medications are changed and broken down by the liver. Grape might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs)Grape extract might slow blood clotting. Taking grape extract along with medications that also slow blood clotting might increase the risk of bruising and bleeding.Midazolam (Versed)Taking grape seed extract for at least one week might increase how quickly the body gets rid of midazolam. This might decrease the effects of midazolam. But taking only a single dose of grape seed extract doesn't seem to have an effect on midazolam.PhenacetinDrinking grape juice might increase how quickly the body breaks down phenacetin. Taking phenacetin along with grape juice might decrease the effects of phenacetin.MinorBe watchful with this combination.Medications changed by the liver (Cytochrome P450 2C9 (CYP2C9) substrates)Some medications are changed and broken down by the liver. Grape might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.  
  
  
Are there interactions with herbs and supplements?  
Herbs and supplements that might slow blood clottingGrape extract might slow blood clotting and increase the risk of bleeding. Taking it with other supplements with similar effects might increase the risk of bleeding in some people. Examples of supplements with this effect include garlic, ginger, ginkgo, nattokinase, and Panax ginseng.Vitamin CTaking vitamin C and grape seed polyphenols daily might increase blood pressure in people with high blood pressure. But this doesn't seem to happen when either vitamin C or grape seed polyphenols are taken alone.  
  
  
Are there interactions with foods?  
There are no known interactions with foods.  
  
  
How is it typically used?  
Grapes are commonly eaten as the whole fruit, and in juices, jellies, and other products.  
  
As medicine, whole grape extracts, grape seed extracts, grape leaf or vine extracts, grape juices, and grape pomaces have been used. Grape seed and grape vine extracts are also used in creams, ointments, and sprays. Speak with a healthcare provider to find out what type of product and dose might be best for a specific condition.  
  
  
  
Other names  
Activin, Black Grape Raisins, Calzin, Draksha, Enocianina, European Wine Grape, Extrait de Feuille de Raisin, Extrait de Feuille de Vigne Rouge, Extrait de Peau de Raisin, Extrait de Pepins de Raisin, Feuille de Raisin, Feuille de Vigne Rouge, Feuille de Vigne Rouge AS 195, Flame Grape, Flame Raisins, Flame Seedless, Folia Vitis Viniferae, Fox Grape, Grape Fruit, Grape Fruit Skin, Grape Juice, Grape Leaf, Grape Leaf Extract, Grape Polyphenols, Grape Pomace, Grape Seed, Grape Seed Extract, Grape Seed Oil, Grape Skin, Grape Skin Extract, Grapes, Grapeseed, Huile de P pins de Raisin, Kali Draksha, Leucoanthocyanin, Muscat, Muskat, Oligom res Procyanidoliques, Oligomeric Proanthocyanidins, Oligomeric Procyanidins, OPC, OPCs, PCO, PCOs, Peau de Raisin, P pin de Raisin, Petite Sirah, Proanthocyanidines Oligom riques, Proanthodyn, Proanthodyne, Procyanidines Oligom riques, Procyanidolic Oligomers, Purple Grape, Raisin, Raisin Blanc, Raisin de Table, Raisin de Vigne, Raisins, Raisins Noirs, Red Globe, Red Grape, Red Malaga, Red Vine, Red Vine Leaf AS 195, Red Vine Leaf Extract, Skunk Grape, Sultanas, Table Grapes, Thompson Seedless, Uva, Vitis labrusca, Vitis vinifera, White Grape, Wine Grape, Wine Grapes.  
  
  
Methodology  
  
 To learn more about how this article was written, please see the Natural Medicines Comprehensive Database methodology.   
   
  
  
References  
Derosa G, D'Angelo A, Preti PS, Maffioli P. Evaluation of the Effect on Sexual Performance of a Nutraceutical Combination Containing Alpha Lipoic Acid, Vitis vinifera L. and Ginkgo biloba, Compared to Placebo, Avanafil or a Combination of Nutraceutical Plus Avanafil in Males With Type 2 Diabetes Mellitus With Erectile Dysfunction. Front Endocrinol (Lausanne) 2022;13:847240. View abstract.  
Sch n C, Allegrini P, Engelhart-Jentzsch K, Riva A, Petrangolini G. Grape Seed Extract Positively Modulates Blood Pressure and Perceived Stress: A Randomized, Double-Blind, Placebo-Controlled Study in Healthy Volunteers. Nutrients 2021;13:654. View abstract.  
Foshati S, Nouripour F, Sadeghi E, Amani R. The effect of grape (Vitis vinifera) seed extract supplementation on flow-mediated dilation, blood pressure, and heart rate: A systematic review and meta-analysis of controlled trials with duration- and dose-response analysis. Pharmacol Res 2022;175:105905. View abstract.  
Ghaedi E , Moradi S , Aslani Z , Kord-Varkaneh H , Miraghajani M , Mohammadi H . Effects of grape products on blood lipids: a systematic review and dose-response meta-analysis of randomized controlled trials. Food Funct. 2019;10:6399-6416. View abstract.  
Izadpanah A, Soorgi S, Geraminejad N, Hosseini M. Effect of grape seed extract ointment on cesarean section wound healing: a double-blind, randomized, controlled clinical trial. Complement Ther Clin Pract 2019;35:323-8. View abstract.  
Moon SW, Shin YU, Cho H, Bae SH, Kim HK; and for the Mogen Study Group. Effect of grape seed proanthocyanidin extract on hard exudates in patients with non-proliferative diabetic retinopathy. Medicine (Baltimore) 2019;98:e15515. View abstract.  
Mart nez-Maqueda D, Zapatera B, Gallego-Narb n A, Vaquero MP, Saura-Calixto F, P rez-Jim nez J. A 6-week supplementation with grape pomace to subjects at cardiometabolic risk ameliorates insulin sensitivity, without affecting other metabolic syndrome markers. Food Funct. 2018;9:6010-6019. View abstract.  
Urquiaga I, Troncoso D, Mackenna MJ, et al. The consumption of beef burgers prepared with wine grape pomace flour improves fasting glucose, plasma antioxidant levels, and oxidative damage markers in humans: A controlled trial. Nutrients. 2018;10. pii: E1388. View abstract.  
De Luca C, Mikhal'chik EV, Suprun MV, et al. Skin antiageing and systemic redox effects of supplementation with marine collagen peptides and plant-derived antioxidants: a single-blind case-control clinical study. Oxid Med Cell Longev. 2016;2016:4389410. View abstract.  
Myasoedova VA, Kirichenko TV, Melnichenko AA, et al. Anti-atherosclerotic effects of a phytoestrogen-rich herbal preparation in postmenopausal women.Int J Mol Sci. 2016;17. View abstract.  
Zu XY, Zhang ZY, Zhang XW, Yoshioka M, Yang YN, Li J. Anthocyanins extracted from Chinese blueberry (Vaccinium uliginosum L.) and its anticancer effects on DLD-1 and COLO205 cells. Chin Med J (Engl). 2010;123:2714-9. View abstract.  
Berry AC, Nakshabendi R, Abidali H, et al. Adverse effects of grape seed extract supplement: A clinical case and long-term follow-up. J Diet Suppl. 2016;13:232-5. View abstract.  
Han HJ, Jung UJ, Kim HJ, et al. Combined supplementation with grape pomace and omija fruit ethanol extracts dose-dependently improves body composition, plasma lipid profiles, inflammatory status, and antioxidant capacity in overweight and obese subjects. J Med Food. 2016;19:170-80. View abstract.  
Lee J, Torosyan N, Silverman DH. Examining the impact of grape consumption on brain metabolism and cognitive function in patients with mild decline in cognition: A double-blinded placebo controlled pilot study. Exp Gerontol. 2017;87(Pt A):121-128. View abstract.  
Calapai G, Bonina F, Bonina A, et al. A randomized, double-blinded, clinical trial on effects of a Vitis vinifera extract on cognitive function in healthy older adults. Front Pharmacol. 2017;8:776. View abstract.  
Park E, Edirisinghe I, Choy YY, Waterhouse A, Burton-Freeman B. Effects of grape seed extract beverage on blood pressure and metabolic indices in individuals with pre-hypertension: a randomised, double-blinded, two-arm, parallel, placebo-controlled trial. Br J Nutr. 2016;115:226-38. View abstract.  
Patrizi A, Raone B, Neri I, et al. Randomized, controlled, double-blind clinical study evaluating the safety and efficacy of MD2011001 cream in mild-to-moderate atopic dermatitis of the face and neck in children, adolescents and adults. J Dermatolog Treat. 2016;27:346-50. View abstract.  
Lamport DJ, Lawton CL, Merat N, et al. Concord grape juice, cognitive function, and driving performance: a 12-wk, placebo-controlled, randomized crossover trial in mothers of preteen children. Am J Clin Nutr. 2016;103:775-83. View abstract.  
Zhang H, Liu S, Li L, et al. The impact of grape seed extract treatment on blood pressure changes: A meta-analysis of 16 randomized controlled trials. Medicine (Baltimore). 2016;95:e4247. View abstract.  
Lumsden AJ, Cooper JG. The choking hazard of grapes: a plea for awareness. Arch Dis Child. 2017;102:473-474. View abstract.  
Spettel S, Chughtai B, Feustel P, Kaufman A, Levin RM, De E. A prospective randomized double-blind trial of grape juice antioxidants in men with lower urinary tract symptoms. Neurourol Urodyn. 2013;32:261-5. View abstract.  
Razavi SM, Gholamin S, Eskandari A, et al. Red grape seed extract improves lipid profiles and decreases oxidized low-density lipoprotein in patients with mild hyperlipidemia. J Med Food. 2013;16:255-8. View abstract.  
Wahner-Roedler DL, Bauer BA, Loehrer LL, Cha SS, Hoskin TL, Olson JE. The effect of grape seed extract on estrogen levels of postmenopausal women: a pilot study. J Diet Suppl. 2014;11:184-97. View abstract.  
Chen WT, Yang TS, Chen HC, et al. Effectiveness of a novel herbal agent MB-6 as a potential adjunct to 5-fluoracil-based chemotherapy in colorectal cancer. Nutr Res. 2014;34:585-94. View abstract.  
Terauchi M, Horiguchi N, Kajiyama A, et al. Effects of grape seed proanthocyanidin extract on menopausal symptoms, body composition, and cardiovascular parameters in middle-aged women: a randomized, double-blind, placebo-controlled pilot study. Menopause 2014;21:990-6. View abstract.  
Ras RT, Zock PL, Zebregs YE, et al. Effect of polyphenol-rich grape seed extract on ambulatory blood pressure in subjects with pre- and stage I hypertension. Br J Nutr 2013;110:2234-41. View abstract.  
O'Connor PJ, Caravalho AL, Freese EC, Cureton KJ. Grape consumption's effects on fitness, muscle injury, mood, and perceived health. Int J Sport Nutr Exerc Metab 2013;23:57-64. View abstract.  
Hemmati AA, Foroozan M, Houshmand G, et al. The topical effect of grape seed extract 2% cream on surgery wound healing. Glob J Health Sci 2014;7:52-8. View abstract.  
Su T, Wilf P, Huang Y, Zhang S, Zhou Z. The natural origins of some popular varieties of fruit. Sci Rep 2015;5:16794. View abstract.  
This P, Lacombe T, Thomas MR. Historical origins and genetic diversity of wine grapes. Trends Genet 2006;22:511-9. View abstract.  
Hodgson JM, Croft KD, Woodman RJ, et al. Effects of vitamin E, vitamin C and polyphenols on the rate of blood pressure variation: results of two randomised controlled trials. Br J Nutr. 2014;112:1551-61. View abstract.  
 Amsellem M, Masson JM, Negui B, and et al. [Endotelon in the treatment of venolymphatic problems in premenstrual syndrome. Multicenter study on 165 patients]. Tempo Medical 1987;282 :46-51.  
 Tebib K et al. Polymeric grape seed tannins prevent plasma cholesterol changes in high-cholesterol-fed rats. Food Chem 1994;49:403-406.  
 Caillet, S., Salmieri, S., and Lacroix, M. Evaluation of free radical scavenging properties of grape phenolic extracts by a fast colorimetric method. Acta Horticulturae 2007;744:425-429.  
 Nuttall SL, Kendall MJ, Bombardelli E, and et al. An evaluation of the antioxidant activity of a standardized grape seed extract, Leucoselect. Journal of Clinical Pharmacology and Therapeutics 1998;23:385-389.  
 Eriz, G., Sanhueza, V., Roeckel, M., and Fernandez, K. Inhibition of the angiotensin-converting enzyme by grape seed and skin proanthocyanidins extracted from Vitis vin fera L. cv. Pa s. LWT - Food Science and Technology 2011;44:860-865.  
 Piper, J., Kohler, S., Niestroj, M., and Malek, F. A. Medical nutrition therapy of patients with atherosclerotic vascular diseases and hypertension by means of perilla oil and black grape extract as dietary food for special medical purposes. Di tetische Intervention mit Perilla- l und Rotweintrauben-Extrakt als erg nzende bilanzierte Di t bei Patienten mit atherosklerotischen Gef sserkrankungen und Bluthochdruck 2005;20:20-26.  
 Pecking A, Desperez-Curely JP, and Megret G. OPC (Endotelon) in the treatment of post-therapy lymphedemas of the upper extremities. Int'l d'Antiologie 1989.  
 Sarrat L. [Therapeutic relief of functional problems of the lower legs by Endotelon, a microangioprotector]. Bordeaux Med 1981;14:685-688.  
 Parienti J and Pareinti-Amsellem J. [Post-traumatic edemas in sports: a controlled test of endotelon]. Gaz Med France 1983;90:231-235.  
 Verin MM, Vildy A, and Maurin JF. [Retinopathies and OPC]. Bordeaux Medicale 1978;11:1467-1474.  
 Fromantin M. [OPC in the treatment of capillary weakness and retinopathy in diabetics. A propos of 26 cases]. Med Int 1982;16:432-434.  
 Arne JL. [Contribution to the study of procyanidolic oligomers: Endotelon in diabetic retinopathy (based on 30 cases).]. Gaz Med France 1982;89:3610-3614.  
 Skarpan ska-Stejnborn, A., Basta, P., Pilaczyn ska-Szczesniak, L., and Horoszkiewicz-Hassan, M. Black grape extract supplementation attenuates blood oxidative stress in response to acute exercise. Biology of Sport 2010;27:41-46.  
 Lafay, S., Jan, C., Nardon, K., Lemaire, B., Ibarra, A., Roller, M., Houvenaeghel, M., Juhel, C., and Cara, L. Grape extract improves antioxidant status and physical performance in elite male athletes. Journal of Sports Science & Medicine 2009;8:468.  
 Lesbre FX and Tigaud JD. [The effect of Endotelon on the capillary fragility index of a specified controlled group: cirrhosis patients]. Gazette Medicale de France 1983;90:2333-2337.  
 Delacroix P. [Double-blind study of Endotelon in chronic venous insufficiency] [translated from French]. La Revue de Medecine 1981;31(27-28):1793-1802.  
 Thebaut JF, Thebaut P, and Vin F. Study of Endotelon in the functional manifestations of peripheral venous insufficiency. Results of a double-blind study of 92 patients. Gazette Medicale 1985;92:96-100.  
 Dartenuc P, Marache P, and Choussat H. [Capillary resistance in geriatry. Study of a microangioprotector: endotelon.]. Bordeaux Medicale 1980;13:903-907.  
 Murgov, I., Acikbas, M., and Nikolova, R. Antimicrobial activity of citric acid and grape seed extract on pathogenic microorganisms and lactobacilli. Scientific Works of the University of Food Technologies - Plovdiv 2008;55:367-372.  
 Butkhup, L., Chowtivannakul, S., Gaensakoo, R., Prathepha, P., and Samappito, S. Study of the phenolic composition of Shiraz red grape cultivar (Vitis vinifera L.) cultivated in North-eastern Thailand and its antioxidant and antimicrobial activity. South African Journal of Enology and Viticulture 2010;31:89-98.  
 Brito, FF., Martinez, A., Palacios, R., Mur, P., Gomez, E., Galindo, P. A., Borja, J., and Martinez, J. Rhinoconjunctivitis and asthma caused by vine pollen: a case report. J Allergy Clin Immunol 1999;103(2 Pt 1):262-266. View abstract.  
 Yamakoshi, J., Kataoka, S., Koga, T., and Ariga, T. Proanthocyanidin-rich extract from grape seeds attenuates the development of aortic atherosclerosis in cholesterol-fed rabbits. Atherosclerosis 1999;142:139-149. View abstract.  
 Day, A. P., Kemp, H. J., Bolton, C., Hartog, M., and Stansbie, D. Effect of concentrated red grape juice consumption on serum antioxidant capacity and low-density lipoprotein oxidation. Ann.Nutr.Metab 1997;41:353-357. View abstract.  
 Bagchi, D., Garg, A., Krohn, R. L., Bagchi, M., Tran, M. X., and Stohs, S. J. Oxygen free radical scavenging abilities of vitamins C and E, and a grape seed proanthocyanidin extract in vitro. Res Commun Mol Pathol.Pharmacol 1997;95:179-189. View abstract.  
 Zimmerli, B. and Dick, R. Ochratoxin A in table wine and grape-juice: occurrence and risk assessment. Food Addit.Contam 1996;13:655-668. View abstract.  
 Henriet, J. P. [Veno-lymphatic insufficiency. 4,729 patients undergoing hormonal and procyanidol oligomer therapy]. Phlebologie. 1993;46:313-325. View abstract.  
 Maffei, Facino R., Carini, M., Aldini, G., Bombardelli, E., Morazzoni, P., and Morelli, R. Free radicals scavenging action and anti-enzyme activities of procyanidines from Vitis vinifera. A mechanism for their capillary protective action. Arzneimittelforschung. 1994;44:592-601. View abstract.  
 Marguerie, C. and Drouet, M. [Occupational eosinophilic lung in a grape grower: role of sulfites]. Allerg.Immunol.(Paris) 1995;27:163-167. View abstract.  
 Faircloth, D. E. and Robison, W. J. Obstruction of the sigmoid colon by grape seeds. JAMA 11-27-1981;246:2430. View abstract.  
 Lagrue, G., Olivier-Martin, F., and Grillot, A. [A study of the effects of procyanidol oligomers on capillary resistance in hypertension and in certain nephropathies (author's transl)]. Sem Hop 9-18-1981;57(33-36):1399-1401. View abstract.  
 Baruch, J. [Effect of Endotelon in postoperative edema. Results of a double-blind study versus placebo in 32 female patients]. Ann.Chir Plast.Esthet. 1984;29:393-395. View abstract.  
 Cox, J. and Grigg, M. Small bowel obstruction by an intact grape. J Am Geriatr.Soc 1986;34:550. View abstract.  
 Soyeux, A., Seguin, J. P., Le, Devehat C., and Bertrand, A. [Endotelon. Diabetic retinopathy and hemorheology (preliminary study)]. Bull.Soc Ophtalmol.Fr. 1987;87:1441-1444. View abstract.  
 Corbe, C., Boissin, J. P., and Siou, A. [Light vision and chorioretinal circulation. Study of the effect of procyanidolic oligomers (Endotelon)]. J Fr.Ophtalmol. 1988;11:453-460. View abstract.  
 Yamasaki, R., Dekio, S., and Jidoi, J. Contact dermatitis from grape bud. Contact Dermatitis 1985;12:226-227. View abstract.  
 Boissin, J. P., Corbe, C., and Siou, A. [Chorioretinal circulation and dazzling: use of procyanidol oligomers (Endotelon)]. Bull.Soc.Ophtalmol.Fr. 1988;88:173-179. View abstract.  
 Meunier, M. T., Villie, F., Jonadet, M., Bastide, J., and Bastide, P. Inhibition of angiotensin I converting enzyme by flavanolic compounds: in vitro and in vivo studies. Planta Med 1987;53:12-15. View abstract.  
 Winter, C. K. and Kurtz, P. H. Factors influencing grape worker susceptibility to skin rashes. Bull.Environ.Contam Toxicol. 1985;35:418-426. View abstract.  
 McCurdy, S. A., Wiggins, P., Schenker, M. B., Munn, S., Shaieb, A. M., Weinbaum, Z., Goldsmith, D., McGillis, S. T., Berman, B., and Samuels, S. Assessing dermatitis in epidemiologic studies: occupational skin disease among California grape and tomato harvesters. Am J Ind.Med 1989;16:147-157. View abstract.  
 Barona, J., Blesso, C. N., Andersen, C. J., Park, Y., Lee, J., and Fernandez, M. L. Grape consumption increases anti-inflammatory markers and upregulates peripheral nitric oxide synthase in the absence of dyslipidemias in men with metabolic syndrome. Nutrients. 2012;4:1945-1957. View abstract.  
 Chuang, C. C., Shen, W., Chen, H., Xie, G., Jia, W., Chung, S., and McIntosh, M. K. Differential effects of grape powder and its extract on glucose tolerance and chronic inflammation in high-fat-fed obese mice. J Agric.Food Chem 12-26-2012;60:12458-12468. View abstract.  
 Benjamin, S., Sharma, R., Thomas, S. S., and Nainan, M. T. Grape seed extract as a potential remineralizing agent: a comparative in vitro study. J Contemp.Dent.Pract. 2012;13:425-430. View abstract.  
 De, Groote D., Van, Belleghem K., Deviere, J., Van, Brussel W., Mukaneza, A., and Amininejad, L. Effect of the intake of resveratrol, resveratrol phosphate, and catechin-rich grape seed extract on markers of oxidative stress and gene expression in adult obese subjects. Ann Nutr Metab 2012;61:15-24. View abstract.  
 Islam, S. M., Hiraishi, N., Nassar, M., Sono, R., Otsuki, M., Takatsura, T., Yiu, C., and Tagami, J. In vitro effect of hesperidin on root dentin collagen and de/re-mineralization. Dent.Mater.J 2012;31:362-367. View abstract.  
 Tome-Carneiro, J., Gonzalvez, M., Larrosa, M., Garcia-Almagro, F. J., Aviles-Plaza, F., Parra, S., Yanez-Gascon, M. J., Ruiz-Ros, J. A., Garcia-Conesa, M. T., Tomas-Barberan, F. A., and Espin, J. C. Consumption of a grape extract supplement containing resveratrol decreases oxidized LDL and ApoB in patients undergoing primary prevention of cardiovascular disease: a triple-blind, 6-month follow-up, placebo-controlled, randomized trial. Mol.Nutr Food Res 2012;56:810-821. View abstract.  
 Rababah, T. M., Al-u'datt, M., Almajwal, A., Brewer, S., Feng, H., Al-Mahasneh, M., Ereifej, K., and Yang, W. Evaluation of the nutraceutical, physiochemical and sensory properties of raisin jam. J Food Sci 2012;77:C609-C613. View abstract.  
 Tome-Carneiro, J., Gonzalvez, M., Larrosa, M., Yanez-Gascon, M. J., Garcia-Almagro, F. J., Ruiz-Ros, J. A., Garcia-Conesa, M. T., Tomas-Barberan, F. A., and Espin, J. C. One-year consumption of a grape nutraceutical containing resveratrol improves the inflammatory and fibrinolytic status of patients in primary prevention of cardiovascular disease. Am J Cardiol. 8-1-2012;110:356-363. View abstract.  
 Cherniack, E. P. A berry thought-provoking idea: the potential role of plant polyphenols in the treatment of age-related cognitive disorders. Br J Nutr 2012;108:794-800. View abstract.  
 Jacobs, D. M., Fuhrmann, J. C., van Dorsten, F. A., Rein, D., Peters, S., van Velzen, E. J., Hollebrands, B., Draijer, R., van, Duynhoven J., and Garczarek, U. Impact of short-term intake of red wine and grape polyphenol extract on the human metabolome. J Agric.Food Chem 3-28-2012;60:3078-3085. View abstract.  
 Fang, M., Liu, R., Xiao, Y., Li, F., Wang, D., Hou, R., and Chen, J. Biomodification to dentin by a natural crosslinker improved the resin-dentin bonds. J Dent. 2012;40:458-466. View abstract.  
 Gazzani, G., Daglia, M., and Papetti, A. Food components with anticaries activity. Curr Opin Biotechnol. 2012;23:153-159. View abstract.  
 Trotta, M., Cesaretti, M., Conzi, R., Derchi, L. E., and Borgonovo, G. Elderly male with mesogastric pain. Small bowel obstruction caused by an intact fresh grape. Ann.Emerg.Med 2011;58:e1-e2. View abstract.  
 Vidhya, S., Srinivasulu, S., Sujatha, M., and Mahalaxmi, S. Effect of grape seed extract on the bond strength of bleached enamel. Oper.Dent. 2011;36:433-438. View abstract.  
 Haniadka, R., Popouri, S., Palatty, P. L., Arora, R., and Baliga, M. S. Medicinal plants as antiemetics in the treatment of cancer: a review. Integr.Cancer Ther. 2012;11:18-28. View abstract.  
 Pires, K. M., Valenca, S. S., Resende, A. C., Porto, L. C., Queiroz, E. F., Moreira, D. D., and de Moura, R. S. Grape skin extract reduced pulmonary oxidative response in mice exposed to cigarette smoke. Med Sci.Monit. 2011;17:BR187-BR195. View abstract.  
 Feringa, H. H., Laskey, D. A., Dickson, J. E., and Coleman, C. I. The effect of grape seed extract on cardiovascular risk markers: a meta-analysis of randomized controlled trials. J Am Diet.Assoc. 2011;111:1173-1181. View abstract.  
 Li, Q. Z., Cho, H. S., Jeun, S. H., Kim, K. J., Choi, S. J., and Sung, K. W. Effects of grape seed proanthocyanidin on 5-hydroxytryptamine receptors in NCB-20 neuroblastoma cells. Biol.Pharm Bull. 2011;34:1109-1115. View abstract.  
 Pan, X., Dai, Y., Li, X., Niu, N., Li, W., Liu, F., Zhao, Y., and Yu, Z. Inhibition of arsenic-induced rat liver injury by grape seed exact through suppression of NADPH oxidase and TGF-beta/Smad activation. Toxicol.Appl.Pharmacol. 8-1-2011;254:323-331. View abstract.  
 Su, X. and D'Souza, D. H. Grape seed extract for control of human enteric viruses. Appl.Environ.Microbiol. 2011;77:3982-3987. View abstract.  
 Matito, C., Agell, N., Sanchez-Tena, S., Torres, J. L., and Cascante, M. Protective effect of structurally diverse grape procyanidin fractions against UV-induced cell damage and death. J Agric.Food Chem 5-11-2011;59:4489-4495. View abstract.  
 Rabe, E., Stucker, M., Esperester, A., Schafer, E., and Ottillinger, B. Efficacy and tolerability of a red-vine-leaf extract in patients suffering from chronic venous insufficiency--results of a double-blind placebo-controlled study. Eur.J Vasc.Endovasc.Surg. 2011;41:540-547. View abstract.  
 Rowe, C. A., Nantz, M. P., Nieves, C., Jr., West, R. L., and Percival, S. S. Regular consumption of concord grape juice benefits human immunity. J Med Food 2011;14(1-2):69-78. View abstract.  
 Liu, T., Zhao, J., Li, H., and Ma, L. Evaluation on anti-hepatitis viral activity of Vitis vinifer L. Molecules. 2010;15:7415-7422. View abstract.  
 Park, M. K., Park, J. S., Cho, M. L., Oh, H. J., Heo, Y. J., Woo, Y. J., Heo, Y. M., Park, M. J., Park, H. S., Park, S. H., Kim, H. Y., and Min, J. K. Grape seed proanthocyanidin extract (GSPE) differentially regulates Foxp3(+) regulatory and IL-17(+) pathogenic T cell in autoimmune arthritis. Immunol.Lett. 3-30-2011;135(1-2):50-58. View abstract.  
 Dohadwala, M. M., Hamburg, N. M., Holbrook, M., Kim, B. H., Duess, M. A., Levit, A., Titas, M., Chung, W. B., Vincent, F. B., Caiano, T. L., Frame, A. A., Keaney, J. F., Jr., and Vita, J. A. Effects of Concord grape juice on ambulatory blood pressure in prehypertension and stage 1 hypertension. Am J Clin.Nutr. 2010;92:1052-1059. View abstract.  
 Gross, G., Jacobs, D. M., Peters, S., Possemiers, S., van, Duynhoven J., Vaughan, E. E., and van de Wiele, T. In vitro bioconversion of polyphenols from black tea and red wine/grape juice by human intestinal microbiota displays strong interindividual variability. J Agric.Food Chem 9-22-2010;58:10236-10246. View abstract.  
 Green, B., Yao, X., Ganguly, A., Xu, C., Dusevich, V., Walker, M. P., and Wang, Y. Grape seed proanthocyanidins increase collagen biodegradation resistance in the dentin/adhesive interface when included in an adhesive. J Dent. 2010;38:908-915. View abstract.  
 van Mierlo, L. A., Zock, P. L., van der Knaap, H. C., and Draijer, R. Grape polyphenols do not affect vascular function in healthy men. J Nutr. 2010;140:1769-1773. View abstract.  
 Zhang, F. J., Yang, J. Y., Mou, Y. H., Sun, B. S., Wang, J. M., and Wu, C. F. Oligomer procyanidins from grape seeds induce a paraptosis-like programmed cell death in human glioblastoma U-87 cells. Pharm Biol. 2010;48:883-890. View abstract.  
 Khoshbaten, M., Aliasgarzadeh, A., Masnadi, K., Farhang, S., Tarzamani, M. K., Babaei, H., Kiani, J., Zaare, M., and Najafipoor, F. Grape seed extract to improve liver function in patients with nonalcoholic fatty liver change. Saudi.J Gastroenterol. 2010;16:194-197. View abstract.  
 Uchino, R., Madhyastha, R., Madhyastha, H., Dhungana, S., Nakajima, Y., Omura, S., and Maruyama, M. NFkappaB-dependent regulation of urokinase plasminogen activator by proanthocyanidin-rich grape seed extract: effect on invasion by prostate cancer cells. Blood Coagul.Fibrinolysis 2010;21:528-533. View abstract.  
 Hollis, J. H., Houchins, J. A., Blumberg, J. B., and Mattes, R. D. Effects of concord grape juice on appetite, diet, body weight, lipid profile, and antioxidant status of adults. J Am Coll.Nutr. 2009;28:574-582. View abstract.  
 Oliveira-Freitas, V. L., Dalla, Costa T., Manfro, R. C., Cruz, L. B., and Schwartsmann, G. Influence of purple grape juice in cyclosporine bioavailability. J Ren Nutr. 2010;20:309-313. View abstract.  
 Ingersoll, G. L., Wasilewski, A., Haller, M., Pandya, K., Bennett, J., He, H., Hoffmire, C., and Berry, C. Effect of concord grape juice on chemotherapy-induced nausea and vomiting: results of a pilot study. Oncol.Nurs.Forum 2010;37:213-221. View abstract.  
 Hashemi, M., Kelishadi, R., Hashemipour, M., Zakerameli, A., Khavarian, N., Ghatrehsamani, S., and Poursafa, P. Acute and long-term effects of grape and pomegranate juice consumption on vascular reactivity in paediatric metabolic syndrome. Cardiol Young. 2010;20:73-77. View abstract.  
 Matias, A. A., Serra, A. T., Silva, A. C., Perdigao, R., Ferreira, T. B., Marcelino, I., Silva, S., Coelho, A. V., Alves, P. M., and Duarte, C. M. Portuguese winemaking residues as a potential source of natural anti-adenoviral agents. Int.J Food Sci.Nutr. 2010;61:357-368. View abstract.  
 Overman, A., Bumrungpert, A., Kennedy, A., Martinez, K., Chuang, C. C., West, T., Dawson, B., Jia, W., and McIntosh, M. Polyphenol-rich grape powder extract (GPE) attenuates inflammation in human macrophages and in human adipocytes exposed to macrophage-conditioned media. Int.J Obes.(Lond) 2010;34:800-808. View abstract.  
 Kamiyama, M., Kishimoto, Y., Tani, M., Andoh, K., Utsunomiya, K., and Kondo, K. Inhibition of low-density lipoprotein oxidation by Nagano purple grape (Vitis viniferaxVitis labrusca). J Nutr.Sci.Vitaminol.(Tokyo) 2009;55:471-478. View abstract.  
 Krikorian, R., Nash, T. A., Shidler, M. D., Shukitt-Hale, B., and Joseph, J. A. Concord grape juice supplementation improves memory function in older adults with mild cognitive impairment. Br J Nutr. 2010;103:730-734. View abstract.  
 van Dorsten, F. A., Grun, C. H., van Velzen, E. J., Jacobs, D. M., Draijer, R., and van Duynhoven, J. P. The metabolic fate of red wine and grape juice polyphenols in humans assessed by metabolomics. Mol.Nutr.Food Res 2010;54:897-908. View abstract.  
 La, V. D., Bergeron, C., Gafner, S., and Grenier, D. Grape seed extract suppresses lipopolysaccharide-induced matrix metalloproteinase (MMP) secretion by macrophages and inhibits human MMP-1 and -9 activities. J Periodontol. 2009;80:1875-1882. View abstract.  
 Kim, E. J., Park, H., Park, S. Y., Jun, J. G., and Park, J. H. The grape component piceatannol induces apoptosis in DU145 human prostate cancer cells via the activation of extrinsic and intrinsic pathways. J Med Food 2009;12:943-951. View abstract.  
 Hsu, Y. L., Liang, H. L., Hung, C. H., and Kuo, P. L. Syringetin, a flavonoid derivative in grape and wine, induces human osteoblast differentiation through bone morphogenetic protein-2/extracellular signal-regulated kinase 1/2 pathway. Mol.Nutr.Food Res 2009;53:1452-1461. View abstract.  
 Park, Y. K., Lee, S. H., Park, E., Kim, J. S., and Kang, M. H. Changes in antioxidant status, blood pressure, and lymphocyte DNA damage from grape juice supplementation. Ann.N.Y.Acad.Sci. 2009;1171:385-390. View abstract.  
 Kar, P., Laight, D., Rooprai, H. K., Shaw, K. M., and Cummings, M. Effects of grape seed extract in Type 2 diabetic subjects at high cardiovascular risk: a double blind randomized placebo controlled trial examining metabolic markers, vascular tone, inflammation, oxidative stress and insulin sensitivity. Diabet.Med 2009;26:526-531. View abstract.  
 Sandra, D., Radha, M., Harishkumar, M., Yuichi, N., Sayuri, O., and Masugi, M. Downregulation of urokinase-type plasminogen activator and plasminogen activator inhibitor-1 by grape seed proanthocyanidin extract. Phytomedicine. 2010;17:42-46. View abstract.  
 Sivaprakasapillai, B., Edirisinghe, I., Randolph, J., Steinberg, F., and Kappagoda, T. Effect of grape seed extract on blood pressure in subjects with the metabolic syndrome. Metabolism 2009;58:1743-1746. View abstract.  
 Wang, Y. J., Thomas, P., Zhong, J. H., Bi, F. F., Kosaraju, S., Pollard, A., Fenech, M., and Zhou, X. F. Consumption of grape seed extract prevents amyloid-beta deposition and attenuates inflammation in brain of an Alzheimer's disease mouse. Neurotox.Res 2009;15:3-14. View abstract.  
 Hsu, C. P., Lin, Y. H., Chou, C. C., Zhou, S. P., Hsu, Y. C., Liu, C. L., Ku, F. M., and Chung, Y. C. Mechanisms of grape seed procyanidin-induced apoptosis in colorectal carcinoma cells. Anticancer Res 2009;29:283-289. View abstract.  
 Cheah, K. Y., Howarth, G. S., Yazbeck, R., Wright, T. H., Whitford, E. J., Payne, C., Butler, R. N., and Bastian, S. E. Grape seed extract protects IEC-6 cells from chemotherapy-induced cytotoxicity and improves parameters of small intestinal mucositis in rats with experimentally-induced mucositis. Cancer Biol.Ther 2009;8:382-390. View abstract.  
 Castillo-Pichardo, L., Martinez-Montemayor, M. M., Martinez, J. E., Wall, K. M., Cubano, L. A., and Dharmawardhane, S. Inhibition of mammary tumor growth and metastases to bone and liver by dietary grape polyphenols. Clin.Exp.Metastasis 2009;26:505-516. View abstract.  
 Rao, A. V., Shen, H., Agarwal, A., Yatcilla, M. T., and Agarwal, S. Bioabsorption and in vivo antioxidant properties of grape extract biovin((r)): a human intervention study. J Med Food 2000;3:15-22. View abstract.  
 Zhang, F. J., Yang, J. Y., Mou, Y. H., Sun, B. S., Ping, Y. F., Wang, J. M., Bian, X. W., and Wu, C. F. Inhibition of U-87 human glioblastoma cell proliferation and formyl peptide receptor function by oligomer procyanidins (F2) isolated from grape seeds. Chem Biol.Interact. 5-15-2009;179(2-3):419-429. View abstract.  
 Zi, S. X., Ma, H. J., Li, Y., Liu, W., Yang, Q. Q., Zhao, G., and Lian, S. Oligomeric proanthocyanidins from grape seeds effectively inhibit ultraviolet-induced melanogenesis of human melanocytes in vitro. Int.J Mol.Med 2009;23:197-204. View abstract.  
 Wen, W., Lu, J., Zhang, K., and Chen, S. Grape seed extract inhibits angiogenesis via suppression of the vascular endothelial growth factor receptor signaling pathway. Cancer Prev.Res (Phila) 2008;1:554-561. View abstract.  
 Leifert, W. R. and Abeywardena, M. Y. Grape seed and red wine polyphenol extracts inhibit cellular cholesterol uptake, cell proliferation, and 5-lipoxygenase activity. Nutr.Res 2008;28:842-850. View abstract.  
 Xie, Q., Bedran-Russo, A. K., and Wu, C. D. In vitro remineralization effects of grape seed extract on artificial root caries. J Dent. 2008;36:900-906. View abstract.  
 Chaves, A. A., Joshi, M. S., Coyle, C. M., Brady, J. E., Dech, S. J., Schanbacher, B. L., Baliga, R., Basuray, A., and Bauer, J. A. Vasoprotective endothelial effects of a standardized grape product in humans. Vascul.Pharmacol. 2009;50(1-2):20-26. View abstract.  
 Liu, J. Y. and Zhong, J. Y. [Study on protective effect of grape procyanidins in radiation injury in radiation-contacted persons]. Zhonghua Yu Fang Yi.Xue.Za Zhi. 2008;42:264-267. View abstract.  
 Punathil, T. and Katiyar, S. K. Inhibition of non-small cell lung cancer cell migration by grape seed proanthocyanidins is mediated through the inhibition of nitric oxide, guanylate cyclase, and ERK1/2. Mol.Carcinog. 2009;48:232-242. View abstract.  
 Mahadeswaraswamy, Y. H., Nagaraju, S., Girish, K. S., and Kemparaju, K. Local tissue destruction and procoagulation properties of Echis carinatus venom: inhibition by Vitis vinifera seed methanol extract. Phytother.Res 2008;22:963-969. View abstract.  
 Jimenez, J. P., Serrano, J., Tabernero, M., Arranz, S., Diaz-Rubio, M. E., Garcia-Diz, L., Goni, I., and Saura-Calixto, F. Effects of grape antioxidant dietary fiber in cardiovascular disease risk factors. Nutrition 2008;24(7-8):646-653. View abstract.  
 Castilla, P., Davalos, A., Teruel, J. L., Cerrato, F., Fernandez-Lucas, M., Merino, J. L., Sanchez-Martin, C. C., Ortuno, J., and Lasuncion, M. A. Comparative effects of dietary supplementation with red grape juice and vitamin E on production of superoxide by circulating neutrophil NADPH oxidase in hemodialysis patients. Am J Clin.Nutr. 2008;87:1053-1061. View abstract.  
 Katiyar, S. K. Grape seed proanthocyanidines and skin cancer prevention: inhibition of oxidative stress and protection of immune system. Mol.Nutr.Food Res 2008;52 Suppl 1:S71-S76. View abstract.  
 Kuo, P. L. and Hsu, Y. L. The grape and wine constituent piceatannol inhibits proliferation of human bladder cancer cells via blocking cell cycle progression and inducing Fas/membrane bound Fas ligand-mediated apoptotic pathway. Mol.Nutr.Food Res 2008;52:408-418. View abstract.  
 Olas, B., Wachowicz, B., Tomczak, A., Erler, J., Stochmal, A., and Oleszek, W. Comparative anti-platelet and antioxidant properties of polyphenol-rich extracts from: berries of Aronia melanocarpa, seeds of grape and bark of Yucca schidigera in vitro. Platelets. 2008;19:70-77. View abstract.  
 Koo, M., Kim, S. H., Lee, N., Yoo, M. Y., Ryu, S. Y., Kwon, D. Y., and Kim, Y. S. 3-Hydroxy-3-methylglutaryl-CoA (HMG-CoA) reductase inhibitory effect of Vitis vinifera. Fitoterapia 2008;79:204-206. View abstract.  
 Engelbrecht, A. M., Mattheyse, M., Ellis, B., Loos, B., Thomas, M., Smith, R., Peters, S., Smith, C., and Myburgh, K. Proanthocyanidin from grape seeds inactivates the PI3-kinase/PKB pathway and induces apoptosis in a colon cancer cell line. Cancer Lett. 12-8-2007;258:144-153. View abstract.  
 Sano, A., Uchida, R., Saito, M., Shioya, N., Komori, Y., Tho, Y., and Hashizume, N. Beneficial effects of grape seed extract on malondialdehyde-modified LDL. J Nutr Sci Vitaminol.(Tokyo) 2007;53:174-182. View abstract.  
 Etheridge, A. S., Black, S. R., Patel, P. R., So, J., and Mathews, J. M. An in vitro evaluation of cytochrome P450 inhibition and P-glycoprotein interaction with goldenseal, Ginkgo biloba, grape seed, milk thistle, and ginseng extracts and their constituents. Planta Med 2007;73:731-741. View abstract.  
 de Lange, D. W., Verhoef, S., Gorter, G., Kraaijenhagen, R. J., van de Wiel, A., and Akkerman, J. W. Polyphenolic grape extract inhibits platelet activation through PECAM-1: an explanation for the French paradox. Alcohol Clin.Exp.Res 2007;31:1308-1314. View abstract.  
 Gamsky, T. E., McCurdy, S. A., Samuels, S. J., and Schenker, M. B. Reduced FVC among California grape workers. Am Rev.Respir.Dis 1992;145(2 Pt 1):257-262. View abstract.  
 Samet, J. M. and Coultas, D. B. Reduced forced vital capacity in California grape workers. What does it mean? Am Rev.Respir.Dis 1992;145(2 Pt 1):255-256. View abstract.  
 Sharma, S. D., Meeran, S. M., and Katiyar, S. K. Dietary grape seed proanthocyanidins inhibit UVB-induced oxidative stress and activation of mitogen-activated protein kinases and nuclear factor-kappaB signaling in in vivo SKH-1 hairless mice. Mol.Cancer Ther 2007;6:995-1005. View abstract.  
 Urios, P., Grigorova-Borsos, A. M., and Sternberg, M. Flavonoids inhibit the formation of the cross-linking AGE pentosidine in collagen incubated with glucose, according to their structure. Eur J Nutr 2007;46:139-146. View abstract.  
 Agarwal, C., Veluri, R., Kaur, M., Chou, S. C., Thompson, J. A., and Agarwal, R. Fractionation of high molecular weight tannins in grape seed extract and identification of procyanidin B2-3,3'-di-O-gallate as a major active constituent causing growth inhibition and apoptotic death of DU145 human prostate carcinoma cells. Carcinogenesis 2007;28:1478-1484. View abstract.  
 Davalos, A., Castilla, P., Gomez-Cordoves, C., and Bartolome, B. Quercetin is bioavailable from a single ingestion of grape juice. Int.J Food Sci.Nutr. 2006;57(5-6):391-398. View abstract.  
 Kaur, M., Singh, R. P., Gu, M., Agarwal, R., and Agarwal, C. Grape seed extract inhibits in vitro and in vivo growth of human colorectal carcinoma cells. Clin Cancer Res 10-15-2006;12(20 Pt 1):6194-6202. View abstract.  
 A review of evidence on red vine leaf extract in the prevention and management of venous disease. J Wound Care 2006;15:393-396. View abstract.  
 Suppasrivasuseth, J., Bellantone, R. A., Plakogiannis, F. M., and Stagni, G. Permeability and retention studies of (-)epicatechin gel formulations in human cadaver skin. Drug Dev Ind Pharm 2006;32:1007-1017. View abstract.  
 Castilla, P., Echarri, R., Davalos, A., Cerrato, F., Ortega, H., Teruel, J. L., Lucas, M. F., Gomez-Coronado, D., Ortuno, J., and Lasuncion, M. A. Concentrated red grape juice exerts antioxidant, hypolipidemic, and antiinflammatory effects in both hemodialysis patients and healthy subjects. Am J Clin.Nutr. 2006;84:252-262. View abstract.  
 Davalos, A., Fernandez-Hernando, C., Cerrato, F., Martinez-Botas, J., Gomez-Coronado, D., Gomez-Cordoves, C., and Lasuncion, M. A. Red grape juice polyphenols alter cholesterol homeostasis and increase LDL-receptor activity in human cells in vitro. J Nutr. 2006;136:1766-1773. View abstract.  
 Kaur, M., Agarwal, R., and Agarwal, C. Grape seed extract induces anoikis and caspase-mediated apoptosis in human prostate carcinoma LNCaP cells: possible role of ataxia telangiectasia mutated-p53 activation. Mol.Cancer Ther 2006;5:1265-1274. View abstract.  
 Skovgaard, G. R., Jensen, A. S., and Sigler, M. L. Effect of a novel dietary supplement on skin aging in post-menopausal women. Eur J Clin Nutr 2006;60:1201-1206. View abstract.  
 Mantena, S. K. and Katiyar, S. K. Grape seed proanthocyanidins inhibit UV-radiation-induced oxidative stress and activation of MAPK and NF-kappaB signaling in human epidermal keratinocytes. Free Radic.Biol Med 5-1-2006;40:1603-1614. View abstract.  
 Mantena, S. K., Baliga, M. S., and Katiyar, S. K. Grape seed proanthocyanidins induce apoptosis and inhibit metastasis of highly metastatic breast carcinoma cells. Carcinogenesis 2006;27:1682-1691. View abstract.  
 Brooker, S., Martin, S., Pearson, A., Bagchi, D., Earl, J., Gothard, L., Hall, E., Porter, L., and Yarnold, J. Double-blind, placebo-controlled, randomised phase II trial of IH636 grape seed proanthocyanidin extract (GSPE) in patients with radiation-induced breast induration. Radiother.Oncol 2006;79:45-51. View abstract.  
 Monsieur, R. and Van, Snick G. [Efficacy of the red vine leaf extract AS 195 in Chronic Venous Insufficiency]. Praxis.(Bern.1994.) 1-25-2006;95:187-190. View abstract.  
 Veluri, R., Singh, R. P., Liu, Z., Thompson, J. A., Agarwal, R., and Agarwal, C. Fractionation of grape seed extract and identification of gallic acid as one of the major active constituents causing growth inhibition and apoptotic death of DU145 human prostate carcinoma cells. Carcinogenesis 2006;27:1445-1453. View abstract.  
 Baliga, M. S. and Katiyar, S. K. Chemoprevention of photocarcinogenesis by selected dietary botanicals. Photochem.Photobiol.Sci. 2006;5:243-253. View abstract.  
 Barthomeuf, C., Lamy, S., Blanchette, M., Boivin, D., Gingras, D., and Beliveau, R. Inhibition of sphingosine-1-phosphate- and vascular endothelial growth factor-induced endothelial cell chemotaxis by red grape skin polyphenols correlates with a decrease in early platelet-activating factor synthesis. Free Radic.Biol.Med 2-15-2006;40:581-590. View abstract.  
 Lekakis, J., Rallidis, L. S., Andreadou, I., Vamvakou, G., Kazantzoglou, G., Magiatis, P., Skaltsounis, A. L., and Kremastinos, D. T. Polyphenolic compounds from red grapes acutely improve endothelial function in patients with coronary heart disease. Eur.J Cardiovasc.Prev.Rehabil. 2005;12:596-600. View abstract.  
 Tao, H. Y., Wu, C. F., Zhou, Y., Gong, W. H., Zhang, X., Iribarren, P., Zhao, Y. Q., Le, Y. Y., and Wang, J. M. The grape component resveratrol interferes with the function of chemoattractant receptors on phagocytic leukocytes. Cell Mol.Immunol. 2004;1:50-56. View abstract.  
 Vitseva, O., Varghese, S., Chakrabarti, S., Folts, J. D., and Freedman, J. E. Grape seed and skin extracts inhibit platelet function and release of reactive oxygen intermediates. J Cardiovasc.Pharmacol. 2005;46:445-451. View abstract.  
 Coimbra, S. R., Lage, S. H., Brandizzi, L., Yoshida, V., and da Luz, P. L. The action of red wine and purple grape juice on vascular reactivity is independent of plasma lipids in hypercholesterolemic patients. Braz.J Med Biol.Res 2005;38:1339-1347. View abstract.  
 Zern, T. L., Wood, R. J., Greene, C., West, K. L., Liu, Y., Aggarwal, D., Shachter, N. S., and Fernandez, M. L. Grape polyphenols exert a cardioprotective effect in pre- and postmenopausal women by lowering plasma lipids and reducing oxidative stress. J Nutr. 2005;135:1911-1917. View abstract.  
 Sharma, S. D. and Katiyar, S. K. Dietary grape-seed proanthocyanidin inhibition of ultraviolet B-induced immune suppression is associated with induction of IL-12. Carcinogenesis 2006;27:95-102. View abstract.  
 Ng, W., Mankotia, M., Pantazopoulos, P., Neil, R. J., and Scott, P. M. Ochratoxin A in wine and grape juice sold in Canada. Food Addit.Contam 2004;21:971-981. View abstract.  
 Hansen, A. S., Marckmann, P., Dragsted, L. O., Finne Nielsen, I. L., Nielsen, S. E., and Gronbaek, M. Effect of red wine and red grape extract on blood lipids, haemostatic factors, and other risk factors for cardiovascular disease. Eur.J Clin.Nutr. 2005;59:449-455. View abstract.  
 Park, Y. K., Kim, J. S., and Kang, M. H. Concord grape juice supplementation reduces blood pressure in Korean hypertensive men: double-blind, placebo controlled intervention trial. Biofactors 2004;22(1-4):145-147. View abstract.  
 de Lange, D. W., Scholman, W. L., Kraaijenhagen, R. J., Akkerman, J. W., and van de Wiel, A. Alcohol and polyphenolic grape extract inhibit platelet adhesion in flowing blood. Eur.J Clin.Invest 2004;34:818-824. View abstract.  
 Yamakoshi, J., Sano, A., Tokutake, S., Saito, M., Kikuchi, M., Kubota, Y., Kawachi, Y., and Otsuka, F. Oral intake of proanthocyanidin-rich extract from grape seeds improves chloasma. Phytother Res 2004;18:895-899. View abstract.  
 Clifton, P. M. Effect of Grape Seed Extract and Quercetin on Cardiovascular and Endothelial Parameters in High-Risk Subjects. J Biomed.Biotechnol. 2004;2004:272-278. View abstract.  
 Albers, A. R., Varghese, S., Vitseva, O., Vita, J. A., and Freedman, J. E. The antiinflammatory effects of purple grape juice consumption in subjects with stable coronary artery disease. Arterioscler.Thromb.Vasc.Biol. 2004;24:e179-e180. View abstract.  
 Nishikawa, M., Ariyoshi, N., Kotani, A., Ishii, I., Nakamura, H., Nakasa, H., Ida, M., Nakamura, H., Kimura, N., Kimura, M., Hasegawa, A., Kusu, F., Ohmori, S., Nakazawa, K., and Kitada, M. Effects of continuous ingestion of green tea or grape seed extracts on the pharmacokinetics of midazolam. Drug Metab Pharmacokinet. 2004;19:280-289. View abstract.  
 Bejaoui, H., Mathieu, F., Taillandier, P., and Lebrihi, A. Ochratoxin A removal in synthetic and natural grape juices by selected oenological Saccharomyces strains. J Appl.Microbiol. 2004;97:1038-1044. View abstract.  
 Nomoto, H., Iigo, M., Hamada, H., Kojima, S., and Tsuda, H. Chemoprevention of colorectal cancer by grape seed proanthocyanidin is accompanied by a decrease in proliferation and increase in apoptosis. Nutr Cancer 2004;49:81-88. View abstract.  
 Ward, N. C., Croft, K. D., Puddey, I. B., and Hodgson, J. M. Supplementation with grape seed polyphenols results in increased urinary excretion of 3-hydroxyphenylpropionic Acid, an important metabolite of proanthocyanidins in humans. J Agric.Food Chem 8-25-2004;52:5545-5549. View abstract.  
 Larrosa, M., Tomas-Barberan, F. A., and Espin, J. C. The grape and wine polyphenol piceatannol is a potent inducer of apoptosis in human SK-Mel-28 melanoma cells. Eur.J Nutr. 2004;43:275-284. View abstract.  
 Kalus, U., Koscielny, J., Grigorov, A., Schaefer, E., Peil, H., and Kiesewetter, H. Improvement of cutaneous microcirculation and oxygen supply in patients with chronic venous insufficiency by orally administered extract of red vine leaves AS 195: a randomised, double-blind, placebo-controlled, crossover study. Drugs R.D. 2004;5:63-71. View abstract.  
 Rosa, C. A., Magnoli, C. E., Fraga, M. E., Dalcero, A. M., and Santana, D. M. Occurrence of ochratoxin A in wine and grape juice marketed in Rio de Janeiro, Brazil. Food Addit.Contam 2004;21:358-364. View abstract.  
 Rawn, D. F., Roscoe, V., Krakalovich, T., and Hanson, C. N-methyl carbamate concentrations and dietary intake estimates for apple and grape juices available on the retail market in Canada. Food Addit.Contam 2004;21:555-563. View abstract.  
 Vigna, G. B., Costantini, F., Aldini, G., Carini, M., Catapano, A., Schena, F., Tangerini, A., Zanca, R., Bombardelli, E., Morazzoni, P., Mezzetti, A., Fellin, R., and Maffei, Facino R. Effect of a standardized grape seed extract on low-density lipoprotein susceptibility to oxidation in heavy smokers. Metabolism 2003;52:1250-1257. View abstract.  
 Dhanalakshmi, S., Agarwal, R., and Agarwal, C. Inhibition of NF-kappaB pathway in grape seed extract-induced apoptotic death of human prostate carcinoma DU145 cells. Int J Oncol. 2003;23:721-727. View abstract.  
 Sano, A., Yamakoshi, J., Tokutake, S., Tobe, K., Kubota, Y., and Kikuchi, M. Procyanidin B1 is detected in human serum after intake of proanthocyanidin-rich grape seed extract. Biosci.Biotechnol.Biochem. 2003;67:1140-1143. View abstract.  
 Schaefer, E., Peil, H., Ambrosetti, L., and Petrini, O. Oedema protective properties of the red vine leaf extract AS 195 (Folia vitis viniferae) in the treatment of chronic venous insufficiency. A 6-week observational clinical trial. Arzneimittelforschung. 2003;53:243-246. View abstract.  
 Frank, T., Netzel, M., Strass, G., Bitsch, R., and Bitsch, I. Bioavailability of anthocyanidin-3-glucosides following consumption of red wine and red grape juice. Can J Physiol Pharmacol. 2003;81:423-435. View abstract.  
 Sovak, M. Grape Extract, Resveratrol, and Its Analogs: A Review. J Med Food 2001;4:93-105. View abstract.  
 Tyagi, A., Agarwal, R., and Agarwal, C. Grape seed extract inhibits EGF-induced and constitutively active mitogenic signaling but activates JNK in human prostate carcinoma DU145 cells: possible role in antiproliferation and apoptosis. Oncogene 3-6-2003;22:1302-1316. View abstract.  
 Katsuzaki, H., Hibasami, H., Ohwaki, S., Ishikawa, K., Imai, K., Date, K., Kimura, Y., and Komiya, T. Cyanidin 3-O-beta-D-glucoside isolated from skin of black Glycine max and other anthocyanins isolated from skin of red grape induce apoptosis in human lymphoid leukemia Molt 4B cells. Oncol.Rep. 2003;10:297-300. View abstract.  
 Natella, F., Belelli, F., Gentili, V., Ursini, F., and Scaccini, C. Grape seed proanthocyanidins prevent plasma postprandial oxidative stress in humans. J Agric.Food Chem 12-18-2002;50:7720-7725. View abstract.  
 Shanmuganayagam, D., Beahm, M. R., Osman, H. E., Krueger, C. G., Reed, J. D., and Folts, J. D. Grape seed and grape skin extracts elicit a greater antiplatelet effect when used in combination than when used individually in dogs and humans. J Nutr. 2002;132:3592-3598. View abstract.  
 O'Byrne, D. J., Devaraj, S., Grundy, S. M., and Jialal, I. Comparison of the antioxidant effects of Concord grape juice flavonoids alpha-tocopherol on markers of oxidative stress in healthy adults. Am J Clin.Nutr. 2002;76:1367-1374. View abstract.  
 Agarwal, C., Singh, R. P., and Agarwal, R. Grape seed extract induces apoptotic death of human prostate carcinoma DU145 cells via caspases activation accompanied by dissipation of mitochondrial membrane potential and cytochrome c release. Carcinogenesis 2002;23:1869-1876. View abstract.  
 Chidambara Murthy, K. N., Singh, R. P., and Jayaprakasha, G. K. Antioxidant activities of grape (Vitis vinifera) pomace extracts. J Agric.Food Chem 10-9-2002;50:5909-5914. View abstract.  
 Nair, N., Mahajan, S., Chawda, R., Kandaswami, C., Shanahan, T. C., and Schwartz, S. A. Grape seed extract activates Th1 cells in vitro. Clin.Diagn.Lab Immunol. 2002;9:470-476. View abstract.  
 Bub, A., Watzl, B., Heeb, D., Rechkemmer, G., and Briviba, K. Malvidin-3-glucoside bioavailability in humans after ingestion of red wine, dealcoholized red wine and red grape juice. Eur.J Nutr. 2001;40:113-120. View abstract.  
 Chou, E. J., Keevil, J. G., Aeschlimann, S., Wiebe, D. A., Folts, J. D., and Stein, J. H. Effect of ingestion of purple grape juice on endothelial function in patients with coronary heart disease. Am J Cardiol 9-1-2001;88:553-555. View abstract.  
 Banerjee, B. and Bagchi, D. Beneficial effects of a novel ih636 grape seed proanthocyanidin extract in the treatment of chronic pancreatitis. Digestion 2001;63:203-206. View abstract.  
 Ray, S. D., Parikh, H., Hickey, E., Bagchi, M., and Bagchi, D. Differential effects of IH636 grape seed proanthocyanidin extract and a DNA repair modulator 4-aminobenzamide on liver microsomal cytochrome 4502E1-dependent aniline hydroxylation. Mol Cell Biochem 2001;218(1-2):27-33. View abstract.  
 Sen, C. K. and Bagchi, D. Regulation of inducible adhesion molecule expression in human endothelial cells by grape seed proanthocyanidin extract. Mol.Cell Biochem. 2001;216(1-2):1-7. View abstract.  
Young, J. F., Dragsted, L. O., Daneshvar, B., Lauridsen, S. T., Hansen, M., and Sandstrom, B. The effect of grape-skin extract on oxidative status. Br J Nutr 2000;84:505-513. View abstract.  
 Agarwal, C., Sharma, Y., Zhao, J., and Agarwal, R. A polyphenolic fraction from grape seeds causes irreversible growth inhibition of breast carcinoma MDA-MB468 cells by inhibiting mitogen-activated protein kinases activation and inducing G1 arrest and differentiation. Clin.Cancer Res 2000;6:2921-2930. View abstract.  
 Cabras, P., Angioni, A., Caboni, P., Garau, V. L., Melis, M., Pirisi, F. M., and Cabitza, F. Distribution of folpet on the grape surface after treatment. J Agric.Food Chem 2000;48:915-916. View abstract.  
 Keevil, J. G., Osman, H. E., Reed, J. D., and Folts, J. D. Grape juice, but not orange juice or grapefruit juice, inhibits human platelet aggregation. J Nutr. 2000;130:53-56. View abstract.  
 Palma, M., Taylor, L. T., Varela, R. M., Cutler, S. J., and Cutler, H. G. Fractional extraction of compounds from grape seeds by supercritical fluid extraction and analysis for antimicrobial and agrochemical activities. J Agric.Food Chem 1999;47:5044-5048. View abstract.  
 Ozturk, H. S., Kacmaz, M., Cimen, M. Y., and Durak, I. Red wine and black grape strengthen blood antioxidant potential. Nutrition 1999;15(11-12):954-955. View abstract.  
 Agarwal, C., Tyagi, A., and Agarwal, R. Gallic acid causes inactivating phosphorylation of cdc25A/cdc25C-cdc2 via ATM-Chk2 activation, leading to cell cycle arrest, and induces apoptosis in human prostate carcinoma DU145 cells. Mol.Cancer Ther 2006;5:3294-3302. View abstract.  
 Shivashankara, A. R., Azmidah, A., Haniadka, R., Rai, M. P., Arora, R., and Baliga, M. S. Dietary agents in the prevention of alcohol-induced hepatotoxicty: preclinical observations. Food Funct. 2012;3:101-109. View abstract.  
 Preuss, H. G., Wallerstedt, D., Talpur, N., Tutuncuoglu, S. O., Echard, B., Myers, A., Bui, M., and 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):227-246. View abstract.  
Eyi, E. G., Engin-Ustun, Y., Kaba, M., and Mollamahmutoglu, L. Ankaferd blood stopper in episiotomy repair. Clin Exp Obstet Gynecol 2013;40:141-143. View abstract.  
Gupta H, Pawar D, Riva A, et al. A randomized, double-blind, placebo-controlled trial to evaluate efficacy and tolerability of an optimized botanical combination in the management of patients with primary hypercholesterolemia and mixed dyslipidemia. Phytother Res 2012;26:265-272. View abstract.  
Barona J, Aristizabal JC, Blesso CN, et al. Grape polyphenols reduce blood pressure and increase flow-mediated vasodilation in men with metabolic syndrome. J Nutr 2012;142:1626-32. View abstract.  
Meng X, Maliakal P, Lu H, et al. Urinary and plasma levels of resveratrol and quercetin in humans, mice, and rats after ingestion of pure compounds and grape juice. J Agric Food Chem 2004;52:935-42. View abstract.  
Ward NC, Hodgson JM, Croft KD, et al. The combination of vitamin C and grape-seed polyphenols increases blood pressure: a randomized, double-blind, placebo-controlled trial. J Hypertens 2005;23:427-34.. View abstract.  
Snow LA, Hovanec L, Brandt J. A controlled trial of aromatherapy for agitation in nursing home patients with dementia. J Altern Complement Med 2004;10:431-7. View abstract.  
Greenblatt DJ, von Moltke LL, Perloff ES, et al. Interaction of flurbiprofen with cranberry juice, grape juice, tea, and fluconazole: in vitro and clinical studies. Clin Pharmacol Ther 2006;79:125-33. View abstract.  
Agarwal C, Sharma Y, Agarwal R. Anticarcinogenic effect of a polyphenolic fraction isolated from grape seeds in human prostate carcinoma DU145 cells: modulation of mitogenic signaling and cell-cycle regulators and induction of G1 arrest and apoptosis. Mol Carcinog 2000;28:129-38.. View abstract.  
Pataki T, Bak I, Kovacs P, et al. Grape seed proanthocyanidins improved cardiac recovery during reperfusion after ischemia in isolated rat hearts. Am J Clin Nutr 2002;75:894-9.  
Bagchi D, Bagchi M, Stohs SJ, et al. Cellular protection with proanthocyanidins derived from grape seeds. Ann N Y Acad Sci 2002;957:260-70.  
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;23:385-89. View abstract.  
Bernstein DI, Bernstein CK, Deng C, et al. Evaluation of the clinical efficacy and safety of grapeseed extract in the treatment of fall seasonal allergic rhinitis: a pilot study. Ann Allergy Asthma Immunol 2002;88:272-8.. View abstract.  
Stein JH, Keevil JG, Wiebe DA, et al. Purple grape juice improves endothelial function and reduces the susceptibility of LDL cholesterol to oxidation in patients with coronary artery disease. Circulation 1999;100:1050-5.. View abstract.  
Freedman JE, Parker C, Li L, et al. Select flavonoids and whole juice from purple grapes inhibit platelet function and enhance nitric oxide release. Circulation 2001;103:2792-8.. View abstract.  
Chisholm A, Mann J, Skeaff M, et al. A diet rich in walnuts favourably influences plasma fatty acid profile in moderately hyperlipidaemic subjects. Eur J Clin Nutr 1998;52:12-6. View abstract.  
Electronic Code of Federal Regulations. Title 21. Part 182 -- Substances Generally Recognized As Safe. Available at: https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?CFRPart=182  
Chevallier A. The Encyclopedia of Medicinal Plants. London, UK: Dorling Kindersley, Ltd., 1996.   
BIBRA working group. Anthocyanins. Toxicity profile. BIBRA Toxicol Int 1991;6.  
Vaswani SK, Hamilton RG, Carey RN, et al. Anaphylaxis recurrent urticaria and angioedema from grape hypersensitivity. J Allergy Clin Immunol 1998;101:S31.  
Peirce A. The American Pharmaceutical Association Practical Guide to Natural Medicines. New York, NY: William Morrow and Co., 1999.  
Meyer AS, Yi OS, Pearson DA, et al. Inhibition of human low-density lipoprotein oxidation in relation to composition of phenolic antioxidants in grapes (Vitis vinifera). J Agric Food Chem 1997;45:1638-43.  
Bombardelli E, Morazzoni P. Vitis vinifera L. Fitoterapia 1995;LXVI:291-317.  
Xiao Dong S, Zhi Ping Z, Zhong Xiao W, et al. Possible enhancement of the first-pass metabolism of phenacetin by ingestion of grape juice in Chinese subjects. Br J Clin Pharmacol 1999;48:638-40. View abstract.  
Kiesewetter H, Koscielny J, Kalus U, et al. Efficacy of orally administered extract of red vine leaf AS 195 (folia vitis viniferae) in chronic venous insufficiency (stages I-II). A randomized, double-blind, placebo-controlled trial. Arzneimittelforschung 2000;50:109-17. View abstract.  
Covington TR, et al. Handbook of Nonprescription Drugs. 11th ed. Washington, DC: American Pharmaceutical Association, 1996.  
Tyler VE. Herbs of Choice. Binghamton, NY: Pharmaceutical Products Press, 1994.