

Corvalen® OPC D-Ribose

DESCRIPTION

Corvalen® OPC is all natural D-ribose for energy support combined with potent antioxidants including oligomeric proanthocyanidins (OPCs). OPCs are some of the most powerful antioxidants to help neutralize free radicals and support healthy aging. †

FUNCTIONS

Corvalen® contains pure D-ribose, a safe and clinically researched ingredient that supports the natural way our bodies produce adenosine triphosphate (ATP), the energy currency of the cell. † Ribose is the vital structural backbone of critical cellular compounds called purines and pyrimidines. Our bodies must have an adequate supply of purines and pyrimidines to form major cellular constituents such as our genetic material (DNA and RNA), numerous cofactors, certain vitamins, and, importantly, adenosine triphosphate (ATP). Ribose is the starting point for the synthesis of these fundamental cellular compounds, and the availability of ribose determines the rate at which they can be made by our cells and tissues.

D-ribose is a structural component of DNA, RNA, ATP, GTP, flavins (FAD, riboflavin) and other important nucleotides found in all living cells. Ribose is formed naturally via the pentose phosphate pathway. This pathway is slow and rate-limited in cardiac and skeletal muscle due to an inherently low concentration (lack of expression) of the enzymes, glucose-6-phosphate dehydrogenase and 6-phosphogluconate dehydrogenase. The product of this pathway is ribose-5-phosphate, which in turn is converted to 5-phosphoribosyl-1-pyrophosphate (PRPP), the primary driver in the synthesis and salvage of purine nucleotides. No other compound can be used by the body for this metabolic purpose. Purine nucleotides (ATP and its precursors) lost due to ischemia, hypoxia, or genetic predisposition is replaced via the purine nucleotide pathway. This pathway is rate limited by the availability of ribose in tissue. Administration of exogenous ribose bypasses the rate-limiting steps in the pentose phosphate pathway, resulting in a significant acceleration of PRPP. Renewed concentration of ATP is accompanied by an increased energy potential in the cell, also known as the "energy charge." Cardiac and skeletal muscle functions (i.e. contraction, cell wall maintenance, relaxation, polarization of the cell membrane) each require a different, quantifiable energy charge to drive or provide allosteric regulation for each function. Restoration of cellular energy charge restores function consistent with the degree of energy charge restored.

D-ribose is indicated for sports and fitness activities because it helps to reduce the loss of energy during stress and accelerate energy and tissue/muscle recovery[†]. Endurance athletes and strength training athletes will both benefit from the effects of supplemental D-ribose. Unless our hearts have an adequate supply of ribose, they simply cannot satisfy their astonishing energy demand. Our bodies make ribose naturally, but in times of stress the need is greater than our supply to satisfy the loss of energy from our cells. That is why supplementing with d-ribose can support proper heart function and helps maintain healthy stroke volume during and after high intensity exercise[†]. A study by Olman et al. in 2003 showed beneficial effects on diastolic function and quality of life in compromised patients after only 3 weeks of supplemental D-ribose.

Although D-ribose is a five-carbon monosaccharide, it does not raise blood sugar, making it a good carbohydrate to use in food and beverage formulation. Corvalen® D-ribose is non-GMO. D-ribose is rapidly and readily (~95%) absorbed with peak blood levels found within 30 – 45 minutes. Ribose not taken up by the cell is excreted unchanged in the urine. Corvalen® D-ribose is GRAS (generally recognized as safe), a determination that results only after considerable toxicology studies are performed and an expensive and time consuming FDA process is completed.

Proanthocyanidins are a class of potent antioxidants found in pine bark extract, grape seed extract, and many other plants. OPC (oligomeric proanthocyanidins) has been shown to neutralize free radicals, support the strength and structure of blood vessels, and support the inflammatory response. OPC may also support the immune system by restoring cytokine balance.† Pomegranate fruit is considered a "super" fruit because it has

Corvalen® OPC
D-Ribose

been associated with numerous health supporting benefits due to its complex profile of antioxidants including tannins, anthocyanidins, and ellagic acid. The consumption of pomegranate juice has been reported to support heart health and circulatory function, as well as maintaining healthy blood vessel relaxation. † Maqui berries, grown in the pristine mountains of Chile are considered another “super” fruit. They have about two times the antioxidant capacity of acai berry due to the abundance of polyphenol and anthocyanin content.

Corvalen® OPC has an antioxidant ORAC value of approximately 4,100 umole TE per serving, which is equivalent to 6-7 servings of fruits and vegetables.

INDICATIONS

Corvalen® OPC is an all-natural D-ribose supplement with organic pomegranate and OPC antioxidants to help restore energy, support cardiac function, fatigue, and healthy aging. †

FORMULA (#57497P-165X)

Serving Size: 1 scoop (approx. 5.5 grams)

Servings Per Container approx. 30

Amount Per Serving

Calories	15
Total Carbohydrate.....	4 g
Sugars (from D-ribose).....	2 g
Potassium (from Potassium Bicarbonate).....	100 mg
D-Ribose.....	2 g
Organic Pomegranate (fruit).....	425 mg
Proprietary Blend.....	190 mg

Maqui Berry, Pomegranate Fruit Extract (standardized to 40% Ellagic Acid), Grape Seed Extract (standardized to 95% total polyphenols), Lemon Bioflavonoid Complex, Bilberry Fruit Extract (standardized to 25% total anthocyanidins), Red Wine Proanthocyanidins, Enzogenol® Pine Bark Extract (standardized to 80% total proanthocyanidins)

Other ingredients: maltodextrin, citric acid, potassium bicarbonate, malic acid, and purified stevia extract.

SUGGESTED USE

Take 1 scoop one to two times daily, taken with or near a meal. A third serving may be added with a mid-day meal as needed. Dissolve powder in 2 oz. or more of water or juice. Do not mix with carbonated beverages.

SIDE EFFECTS

No adverse effects have been reported.

CAUTIONS: Mild, transient hypoglycemia may occur if taken on an empty stomach. Insulin dependent diabetics and pregnant women should consult their physician before use. Ribose may cause a transient increase in uric acid levels; therefore those that have chronic gout should consult their physician before use.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

REFERENCES

J.R. Schneider, et al. *Cirr.*, Vol. 72, #4, 1192, 1985

Omran H, Illien S, MacCarter D, St Cyr J, Lüderitz B. [Eur J Heart Fail. 2003 Oct;5\(5\):615-9.](#)

Corvalen® OPC D-Ribose

Wallen WJ, Belanger MP, Wittnich C. [Can J Physiol Pharmacol. 2003 Jan;81\(1\):40-7](#)

Ingwall JS. [Curr Hypertens Rep. 2006 Dec;8\(6\):457-64.](#)

MacCarter D, Vijay N, Washam M, Shecterle L, Sierminski H, St Cyr JA. [Int J Cardiol 2009 Sep11;137 \(1\):79-80.](#)

D. Perkowski, S. Wagner, A. Marcus, J. St.Cyr; Orange County Thoracic and CV Surgeons, Orange, CA, Bioenergy, Inc, Minneapolis, MN. J Surg Res 2007; 137(2): 295.

Zimmer HG. [Cardiovasc Drugs Ther. 1998 Sep;12 Suppl 2:179-87. Review](#)

Pliml W, von Arnim T, Stäblein A, Hofmann H, Zimmer HG, Erdmann E. [Lancet.1992 Aug 29;340\(8818\):507-10.](#)

Araghi-Niknam M, Hosseini S, Larson D, Rohdewald P, Watson RR. Pine bark extract reduces platelet aggregation. Integ Med 2: 73-77, 1999.

Robert L et al: Action of procyanidolic oligomers on vascular permeability. Path Biol 1990;38:608-616.

Yokozawa T, Cho EJ, Park CH, Kim JH. Protective Effect of Proanthocyanidin against Diabetic Oxidative Stress. Evid Based Complement Alternat Med. 2012;2012:623879. Epub 2011 Sep 7.

Aviram M, Rosenblat M, Gaitini D, Nitecki S, Hoffman A, Dornfeld L, Volkova N, Presser D, Attias J, Liker H, Hayek T. Pomegranate juice consumption for 3 years by patients with carotid artery stenosis reduces common carotid intima-media thickness, blood pressure and LDL oxidation. Clin Nutr. 2004. 23:423-433.

Stowe CB. The effects of pomegranate juice consumption on blood pressure and cardiovascular health. Complement Ther Clin Pract. 2011 May;17(2):113-5. Review.

Aires D, Rockwell G, Wang T, Frontera J, Wick J, Wang W, Tonkovic-Capin M, Lu J, E L, Zhu H, Swerdlow RH. Potentiation of dietary restriction-induced lifespan extension by polyphenols. Biochim Biophys Acta. 2012 Jan 11.

For more information on Corvalen®, visit douglaslabs.com/corvalen

† These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

Manufactured for
Douglas Laboratories
600 Boyce Road
Pittsburgh, PA 15205
800-245-4440
douglaslabs.com



**You trust Douglas Laboratories.
Your patients trust you.**