**AOR CODE: AOR04276**

**Premium**

**Ribogen Mg**

$62.95 CAD

Enhances Energy and Reduces Fatigue

- Magnesium combined with D-ribose, the backbone of your DNA
- Helps alleviate fatigue and enhances performance
- Reduces muscle pain

Gluten Free   Vegan   Non-GMO   Performance Nutrition

<table>
<thead>
<tr>
<th>AOR Code</th>
<th>Variant</th>
<th>Price</th>
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<tbody>
<tr>
<td>AOR04276</td>
<td>263 G POWDER</td>
<td>$62.95</td>
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**Details**

D-Ribose is a naturally occurring five-carbon sugar that is found in all living cells. It is a building block of nucleic acids, which are the building blocks for DNA and RNA. It is also a precursor for adenosine triphosphate (ATP), which is the 'molecular currency' of cellular energy, providing energy for every movement and chemical reaction made by the body. D-Ribose has been studied in heart failure, fibromyalgia and exercise performance as a way to improve muscle energy production. Magnesium is an important mineral that also helps stabilize ATP and DNA.

Ribogen Mg is primarily designed to support energy production and muscle function. Magnesium and D-ribose together in one formula provide a precursor for ATP (cellular energy) while boosting the capacity for the cells to use it. They can help improve heart function, enhance athletic performance and reduce muscle pain. Ribogen Mg can benefit those with fibromyalgia or chronic fatigue, athletes, bodybuilders and those with cardiovascular dysfunction.

**Label Info**

**Discussion**

Ribogen Mg helps in the maintenance of proper muscle function, and is a workout supplement, providing a source of carbohydrates to support energy production, and helping to promote endurance in extended, high intensity exercise.
Product Variation
Product Code: AOR04276
Size: 263 G POWDER

Supplements Facts
Serving Size: 1 Scoop (approx. 2.5 g)

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<thead>
<tr>
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<th>Amount</th>
<th>% Daily</th>
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<tr>
<td>D-Ribose</td>
<td>2.5 g</td>
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<tr>
<td>Magnesium (citrate)</td>
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none.

 Guarantees
AOR™ guarantees that all ingredients have been declared on the label. Contains no wheat, gluten, nuts, peanuts, sesame seeds, sulphites, mustard, soy, dairy, eggs, fish, shellfish or any animal byproduct.

Adult Dosage
For muscle function and good health, take 1-4 scoops daily, or as directed by a qualified health care practitioner. For workout support, energy, and endurance in high intensity exercise take 3-4 scoops daily. Mix product well in 1-2 cups of liquid (water, juice, etc.) immediately before consumption. Take with/without food.

Cautions
Consult a health care practitioner prior to use if you are pregnant or breastfeeding. Ensure to adequately hydrate before, during, and after exercise.

Source
Pharmaceutical synthesis

Main Application
Athletic performance
Energy
Fatigue

Disclaimer
The information and product descriptions appearing on this website are for information purposes only, and are not intended to provide or replace medical advice to individuals from a qualified health care professional. Consult with your physician if you have any health concerns, and before initiating any new diet, exercise, supplement, or other lifestyle changes.
Part of Our Genetic Make-up

D-ribose, sometimes known simply as ribose, is a naturally occurring, five-carbon sugar that is found in all living cells. It can be synthesized endogenously from glucose and is essential to the functioning of life, as it is a component of all forms of ribonucleic acid (RNA), adenosine triphosphate (ATP), as well as all nucleotides and nucleotide coenzymes. RNA is the single richest source of D-ribose, and D-ribose from RNA is converted to D-deoxyribose, a component of DNA (Deoxyribonucleic acid), the building block of life itself.

Essential to Energy Production

When combined with D-ribose, the pervasive purine adenine (a central base of nucleotides) forms adenosine, which in turn amalgamates three phosphate molecules to form adenosine triphosphate (ATP). ATP is known as the ‘molecular currency’ of intracellular energy transfer, providing energy for every move and chemical reaction made by the body. The inability of the heart and skeletal muscle cells to replenish their nucleotide pools quickly enough is due in large part to the inefficient metabolism of endogenous ribose needed for ATP nucleotide re-synthesis.

How is D-Ribose Used in the Body?

In the body, D-ribose is produced from glucose. It is then converted into 5-Phosphoribosyl 1-pyrophosphate (PRPP), which is the active form of D-ribose utilized by the body. PRPP is critical in making and repairing of purine nucleotides and in making pyrimidine and histidine nucleotides. Supplemental D-ribose can serve as a precursor for PRPP, enhancing its nucleotide synthesizing and salvaging capability – with ATP being among the primary nucleotides being produced and repaired.

Absorption of D-Ribose Supplements

Supplemental oral D-ribose is also extremely bio-available, with 88-100% being absorbed directly from the small intestine with very little first-pass metabolism occurring in the liver. It is then distributed to various tissues of the body, including cardiac and skeletal muscle, where it can be converted into PRPP, the active form of D-Ribose in the body.

What is D-Ribose Used For?

Because D-Ribose helps form ATP and DNA, it has been studied in conditions where energy and DNA repair are needed. D-Ribose is considered clinically useful in exercise, chronic fatigue, fibromyalgia and cardiovascular ischemia (when the heart muscle is suffering from a lack of oxygen).

Research

D-Ribose and Cardiovascular Ischemia

The effectiveness of D-ribose has been demonstrated in the gold standard of scientific study; double-
blind, placebo-controlled human trials. In one study of 20 men (aged 45 to 69) with severe documented coronary artery disease (CAD) and a history of angina induced by normal daily activities, 60 grams of D-ribose (in four doses of 15 grams each) were tested against a placebo. Treated subjects exhibited improvement as measured electrocardiographically, and time to onset of moderate angina (during exercise testing) increased significantly in the ribose-treated subjects. The authors concluded: “In patients with CAD, administration of ribose by mouth for three days improved the heart’s tolerance to ischemia. The presumed effects on cardiac energy metabolism offer new possibilities for adjunctive medical treatment of myocardial ischemia.” In another study involving 15 patients with coronary heart disease and congestive heart failure, it was found that 15 grams of D-ribose daily for three weeks resulted in improved diastolic heart function as well as increased scores in physical function and quality of life.

**D-Ribose and Fibromyalgia/Chronic Fatigue Syndrome**

Fibromyalgia (FMS) and Chronic Fatigue Syndrome (CFS) are debilitating conditions that have been diagnosed with increasing frequency, especially since the late 1980’s. The aforementioned role of D-ribose in the composition and generation of ATP has led to the hypothesis that it may be of assistance to patients suffering from these conditions. Scientists put this hypothesis to the test in 2006 when 41 patients diagnosed with FMS and/or CFS were given 15 grams of D-ribose daily for 19 days. The results were that 66% of the patients experienced ‘significant improvement’ in all five categories of a standardized Visual Analogue Scale questionnaire (VAS): energy; sleep; mental clarity; pain intensity; and well-being. The patients experienced an average increase of 45% in energy and 30% in well-being.

**D-Ribose and Exercise**

D-ribose also has benefits for healthy people who are in need of extra energy. A double blind, placebo-controlled trial observed the effects of supplemental ribose on body composition and exercise performance. 20 healthy, young male recreational bodybuilders aged 18-35 were given 10g/day D-ribose (5g before and after training) for 4 weeks. Training involved participation in a heavy-resistance program designed to increase skeletal muscle mass. There was a significant increase in the total work performed and in 1-RM bench press strength at the end of the study compared to the beginning in the D-ribose group. These changes were not seen in the placebo group, leading researchers to conclude that the supplementation contributed to increases in muscular strength and exercise performance.

D-ribose is extremely well-tolerated in human trials, and its fundamental role in the make-up and synthesis of ATP continues to attract interest from the scientific community for the study of an increasing number of health conditions affected by energy metabolism.

**Market Trends**

D-Ribose is a sugar that is made in the human body and is essential to energy and to life. This supplement is mostly known for its energy-enhancing properties especially for athletes. However, it can enhance the energy of robust consumers such as athletes as well as more vulnerable consumers
such as some heart patients and those with energy-related conditions.

**AOR Advantage**

In 1998, AOR released the first D-Ribose supplement in the world. AOR’s Ribogen Mg is pure D-Ribose in powder form, and the dosage allows you to choose the dose that works best for you. A small amount of magnesium has been added to ensure adequate muscle function and relaxation. Magnesium also helps stabilize ATP and DNA, making D-Ribose and magnesium the perfect combination.

**References**


**Abstract**

**D-ribose aids advanced ischemic heart failure patients.**


MacCarter D, Vijay N, Washam M, Shecterle L, Sierminski H, St Cyr JA.

Patients with advanced heart failure are exercise intolerant. Low cellular energy levels in the failing heart have been proposed. Energy enhancing substrates have revealed mixed results. Ribose, a pentose monosaccharide, has shown to replenish low myocardial energy levels, improving cardiac dysfunction following ischemia, and improving ventilation efficiency in patients with heart failure. As current pharmaceuticals do not address cellular energy levels, this study was designed to investigate
The role of ribose on ventilation at anaerobic threshold in congestive heart failure patients. d-ribose (5 gms/dose, tid) was assessed in 16 NYHA class III-IV, heart failure patients with VO(2), tidal volume/VCO(2), heart rate/tidal volume evaluated at 8 weeks. All patients had a significant improvement in ventilatory parameters at anaerobic threshold, along with a 44% Weber class improvement. Ribose improved the ventilatory exercise status in advanced heart failure patients.


Teitelbaum JE, Johnson C, St Cyr J.

OBJECTIVES: Fibromyalgia (FMS) and chronic fatigue syndrome (CFS) are debilitating syndromes that are often associated with impaired cellular energy metabolism. As D-ribose has been shown to increase cellular energy synthesis in heart and skeletal muscle, this open-label uncontrolled pilot study was done to evaluate if D-ribose could improve symptoms in fibromyalgia and/or chronic fatigue syndrome patients.

DESIGN: Forty-one (41) patients with a diagnosis of FMS and/or CFS were given D-ribose, a naturally occurring pentose carbohydrate, at a dose of 5 g t.i.d. for a total of 280 g. All patients completed questionnaires containing discrete visual analog scales and a global assessment pre- and post-D-ribose administration.

RESULTS: D-ribose, which was well-tolerated, resulted in a significant improvement in all five visual analog scale (VAS) categories: energy; sleep; mental clarity; pain intensity; and well-being, as well as an improvement in patients’ global assessment. Approximately 66% of patients experienced significant improvement while on D-ribose, with an average increase in energy on the VAS of 45% and an average improvement in overall well-being of 30% (p < 0.0001).

CONCLUSIONS: D-ribose significantly reduced clinical symptoms in patients suffering from fibromyalgia and chronic fatigue syndrome.

Ribose improves diastolic function and quality of life in congestive heart failure patients: a prospective feasibility study.


Heyder Omran, Stefan Illiena, Dean MacCarterb, John St. Cyrb and Berndt Lüderitz.

Patients with chronic coronary heart disease often suffer from congestive heart failure (CHF) despite multiple drug therapies. -Ribose has been shown in animal models to improve cardiac energy metabolism and function following ischaemia. This was a prospective, double blind, randomized, crossover design study, to assess the effect of oral -ribose supplementation on cardiac hemodynamics and quality of life in 15 patients with chronic coronary artery disease and CHF. The
study consisted of two treatment periods of 3 weeks, during which either oral -ribose or placebo was administered followed by a 1-week wash out period, and then administration of the other supplement. Assessment of myocardial functional parameters by echocardiography, quality of life using the SF-36 questionnaire and functional capacity using cycle ergometer testing was performed. The administration of -ribose resulted in an enhancement of atrial contribution to left ventricular filling (40±11 vs. 45±9%, P=0.02), a smaller left atrial dimension (54±20 vs. 47±18 ml, P=0.02) and a shortened E wave deceleration (235±64 vs. 196±42, P=0.002) by echocardiography. Further, -ribose also demonstrated a significant improvement of the patient’s quality of life (417±118 vs. 467±128, P=0.01). In comparison, placebo did not result in any significant echocardiographic changes or in quality of life. This feasibility study in patients with coronary artery disease in CHF revealed the beneficial effects of -ribose by improving diastolic functional parameters and enhancing quality of life.

The Effects of Four Weeks of Ribose Supplementation on Body Composition and Exercise Performance in Healthy, Young, Male Recreational Bodybuilders: A Double-Blind, Placebo-Controlled Trial.

Current Therapeutic Research 2002;63(8):486-495.

Van Gammeren D, Falk D and Antonio J.

BACKGROUND: Ribose is a pentose sugar that is present in ribonucleic acids, riboflavin, nucleotides, and adenosine triphosphate. Whether exogenous ribose administration affects skeletal muscle concentrations of total adenine nucleotides is unknown. Whether supplementation with ribose positively affects body composition or exercise performance in recreational bodybuilders also is unknown.

OBJECTIVE: The purpose of this double-blind, placebo-controlled trial was to determine the effects of 4 weeks of ribose supplementation on body composition and exercise performance in healthy, young, male recreational bodybuilders.

METHODS: Healthy, male recreational bodybuilders aged 18 to 35 years were recruited and randomized to a ribose-supplemented group (10 g/d in powder formulation) or a placebo group (dextrose). Each subject participated in a heavy-resistance training program designed to increase skeletal muscle mass. Body composition (ie, body weight, body fat, lean body mass, fat mass, and bone mineral content) was assessed using dual-energy x-ray absorptiometry analysis. Muscular strength (as measured by a 1-repetition maximum-strength [1-RM] bench press) and total work performed (as measured by total repetitions for 10 sets of bench presses before muscular failure; 1-minute resting interval between sets) to muscular failure at a submaximal load (100% of pretest body weight) were ascertained. In addition, 24-hour dietary recalls were obtained before and after the study.

RESULTS: Twenty men (mean age SE, 23.9 1.4 years) were enrolled; 19 subjects completed 24-hour dietary recalls and exercise performance testing; 12 subjects completed the study (24-hour dietary recalls, exercise performance, and body composition). No baseline differences were found between the 2 groups for any of the measured parameters. The ribose supplemented group experienced a significant pretreatment-to-posttreatment increase in the total work performed, whereas the placebo
group did not change significantly (24.5 f 7.6 to 29.3 f 7.5 repetitions; 19.6% ribose [P = 0.0281 vs 34.1 f 8.6 to 38.2 f 8.0 repetitions, 12.0% placebo). In addition, the ribosesupplemented group experienced a significant increase in I-RM bench press strength, whereas the placebo group did not change significantly (114.1 f 13.6 to 117.7 f 14.0 kg, 3.2% ribose [P = 0.003] vs 129.6 f 14.2 to 131.8 14.5 kg, 1.7% placebo). No pretreatmentto- posttreatment within-group or between-group differences were found for any of the measures of body composition or the 24-hour dietary data.

CONCLUSION: The results of this study indicate that supplementation with ribose 10 g/d for 4 weeks resulted in significant increases in muscular strength and total work performed in recreational bodybuilders in this study, although no significant changes in body composition or 24-hour dietary data were found.