POWER PACK



All-in-one daily foundational packs to support athletes*

This information is provided for the use of physicians and other licensed health-care practitioners only. This information is intended for physicians and other licensed health-care providers to use as a basis for determining whether to recommend this product to their patients. This medical and scientific information is not for use by consumers. The dietary supplement products offered by Designs for Sport* are not intended for use by consumers as a means to diagnose, treat, cure, prevent, or mitigate any disease or other medical condition.

WHAT IS THE POWER PACK?

The Designs for Sport® Power Pack is specifically designed to support the vitamin, mineral, and phytonutrient needs of athletes.* Proper nutrition is key to supporting athletes ability to perform at their best, allowing them to go further, faster, and longer.* Physical exercise places stress on the body, often depleting key nutrients and increasing demand for specific nutrients essential for recovery and performance.*

FORMULA HIGHLIGHTS

- Multi + Phyto supplies a wide range of key vitamins, minerals, and phytochemicals
- Omega 3 Hi-Po provides 1,600 mg of essential omega-3 fatty acids
- Vitamin D3 Pro offers 2,000 IU of vitamin D
- Magnesium Bisglycinate provides 150 mg of elemental magnesium in a highly absorbable and bioavailable chelated form
- NSF Certified for Sport®

MULTI + PHYTO

Multi+Phyto is a first-of-its-kind multivitamin, mineral, and phytonutrient blend specifically formulated to mimic the nutrient intakes found in an optimal evolutionary human diet. The amount of nutrients provided by Multi + Phyto were devised based on the concept of evolutionary adaptation of human physiology, and they correspond to a whole-food, nutrient-dense diet that supplies adequate energy intake. In addition to bioidentically sourced vitamins and minerals, this formula contains targeted amounts of phytonutrients from fruit and vegetable extracts that were likely consumed in greater quantities in the evolutionary past than they are in modern diets. Trace minerals featured in Multi + Phyto, such as zinc, selenium, copper, manganese and chromium, are needed for proper physiological function, but are often deficient even in healthy populations, such as active individuals.¹ Those consuming low or no animal foods may be at an even higher risk of inadequate micronutrient intake and could benefit from supplementation, as seen in an observational study on 75 healthy Danes adhering to a vegan diet for a minimum of one year.² Furthermore, trace minerals play roles in a multitude of physiological processes, and exercise can lead to changes in levels and excretion of minerals. For instance, a controlled-study on 21 healthy runners found that high intensity running led to decreases in selenium and zinc concentrations compared to sedentary populations.³ Multi + Phyto features essential vitamins that can support overall health and athletic performance.* B vitamins play a role in energy production in the body, and may help support exercise performance through healthy energy production and cellular repair.* They are used by the cells to convert carbohydrates, fats, and proteins into usable energy.* In a randomized controlled trial (RCT) of 32 healthy adults aged 20 to 30, supplementing with thiamine, riboflavin, vitamin B6, B12, and vitamin E for 28 days resulted in a 1.26-fold increase in the time it took to run until exhausted compared to the placebo group.⁴

Exercise may increase oxidative stress in the body.⁵ To help mitigate the adverse effects of oxidative stress, it may be helpful to provide compounds that can promote antioxidant status, such as with citrus bioflavonoids.* Flavonoids may help in alleviating exercise-induced fatigue and muscle impairment due to acute muscle damage from exercise.^{6,7} Quercetin may be one such flavonoid for this purpose. An RCT on 12 men found that after 14 days of supplementing with 1,000 mg/ day of quercetin, the men had less severe muscle weakness after exercise-induced muscle damage than the placebo.6 Blueberries, which contain a flavonoid called anthocyanin, have also been found to help mitigate exercise-induced muscle tissue damage and inflammatory markers.⁷ A randomized study on 49 healthy untrained adults showed that those who supplemented with the equivalent of one cup/day of blueberries for 18 days showed positive effects on inflammatory markers for four days after a 90-minute bout of exercise compared to the placebo group.⁷ Multi + Phyto features bioflavonoids, quercetin, and wild blueberries, along with other beneficial phytonutrients.*



OMEGA 3 HI-PO

Fish oil provides the essential fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). These may benefit athletes by supporting a healthy immune response to exercise, supporting an increase in oxygen capacity, and muscle recovery.^{8,9} To examine oxygen capacity, 26 trained men supplemented with EPA (140 mg) and DHA (560 mg) fish oil or placebo every day for eight weeks. Although no difference was seen in power and strength output, there was an observed decrease in oxygen consumption during the cycling trial in the fish oil group likely due to muscle integration of omega-3 fatty acids.⁹

MAGNESIUM BISGLYCINATE

Magnesium is a mineral that supports human health in many ways, and may be especially helpful for athletes.* Magnesium supplementation may help reduce muscle soreness post exercise.^{11,12} One double-blind controlled study examined the potential benefits of magnesium supplementation for muscle soreness and performance on 22 healthy men and women. The study observed that those who were administered 350 mg/day of magnesium displayed significantly reduced muscle soreness by 1 to 2 units on a 6-point scale over 48 hours compared to the placebo intervention.¹³

VITAMIN D3 PRO SOFTGELS

Vitamin D is a hormone-like vitamin that influences many functions in the body, and is often deficient even in athletes.¹⁰ When it comes to athletes, supplementing with this vitamin supports nutrient status, aerobic and anaerobic capacity, and immune health.^{12–14} During an RCT study of 40 active men, supplementing 2,000 IU/day of vitamin D supported a slight increase in VO2 max, average power, anaerobic performance, and to a lesser extent aerobic performance compared to a placebo for 12 weeks during the fall and winter seasons.¹¹

BENEFITS*

- May help with exercise-induced fatigue^{4,11}
- May support exercise performance^{4,6,9}
- Supports nutrient status^{2,3,10}
- May support a healthy inflammatory response^{7,8}
- May support muscle recovery and soreness^{8,13,14}

HOW TO TAKE

Supply your body with one Power Pack packet per day to support your athletic performance.*



PFP030-DS

POWER PACK



References

- 1. Vural Z, Avery A, Kalogiros DI, Coneyworth LJ, Welham SJM. Trace mineral intake and deficiencies in older adults living in the community and institutions: a systematic review. *Nutrients*. 2020;12(4):1072. doi:10.3390/nu12041072
- 2. Kristensen NB, Madsen ML, Hansen TH, et al. Intake of macro- and micronutrients in Danish vegans. *Nutr J*. 2015;14:115. doi:10.1186/s12937-015-0103-3
- 3. Maynar M, Muñoz D, Alves J, et al. Influence of an acute exercise until exhaustion on serum and urinary concentrations of molybdenum, selenium, and zinc in athletes. *Biol Trace Elem Res*. 2018;186(2):361-369. doi:10.1007/s12011-018-1327-9
- Lee MC, Hsu YJ, Shen SY, Ho CS, Huang CC. A functional evaluation of anti-fatigue and exercise performance improvement following vitamin B complex supplementation in healthy humans, a randomized double-blind trial. Int J Med Sci. 2023;20(10):1272-1281. doi:10.7150/ijms.86738
- 5. Awang Daud DM, Ahmedy F, Baharuddin DMP, Zakaria ZA. Oxidative stress and antioxidant enzymes activity after cycling at different intensity and duration. *Appl Sci.* 2022;12(18):9161. doi:10.3390/app12189161
- 6. Bazzucchi I, Patrizio F, Ceci R, et al. The effects of quercetin supplementation on eccentric exercise-induced muscle damage. *Nutrients*. 2019;11(1):205. doi:10.3390/nu11010205
- 7. Nieman DC, Sakaguchi CA, Omar AM, et al. Blueberry intake elevates post-exercise anti-inflammatory oxylipins: a randomized trial. *Sci Rep.* 2023;13(1):11976. doi:10.1038/s41598-023-39269-1
- 8. Lewis NA, Daniels D, Calder PC, Castell LM, Pedlar CR. Are there benefits from the use of fish oil supplements in athletes? A systematic review. *Adv Nutr.* 2020;11(5):1300-1314. doi:10.1093/advances/nmaa050
- Hingley L, Macartney MJ, Brown MA, McLennan PL, Peoples GE. DHA-rich fish oil increases the omega-3 index and lowers the oxygen cost of physiologically stressful cycling in trained individuals. *Int J Sport Nutr Exerc Metab.* 2017;27(4):335-343. doi:10.1123/ijsnem.2016-0150
- 10. Reno AM, Green M, Killen LG, O'Neal EK, Pritchett K, Hanson Z. Effects of magnesium supplementation on muscle soreness and performance. *J Strength Cond Res.* 2022;36(8):2198-2203. doi:10.1519/JSC.00000000003827
- Steward CJ, Zhou Y, Keane G, Cook MD, Liu Y, Cullen T. One week of magnesium supplementation lowers IL-6, muscle soreness and increases post-exercise blood glucose in response to downhill running. *Eur J Appl Physiol*. 2019;119(11-12):2617-2627. doi:10.1007/s00421-019-04238-y
- Michalczyk MM, Gołaś A, Maszczyk A, Kaczka P, Zając A. Influence of sunlight and oral D3 supplementation on serum 25(OH)D concentration and exercise performance in elite soccer players. *Nutrients*. 2020;12(5):1311. doi:10.3390/ nu12051311
- Ramezani Ahmadi A, Mohammadshahi M, Alizadeh A, Ahmadi Angali K, Jahanshahi A. Effects of vitamin D3 supplementation for 12 weeks on serum levels of anabolic hormones, anaerobic power, and aerobic performance in active male subjects: a randomized, double-blind, placebo-controlled trial. *Eur J Sport Sci.* 2020;20(10):1355-1367. doi:1 0.1080/17461391.2020.1713218
- 14. Barker T, Martins TB, Hill HR, et al. Different doses of supplemental vitamin D maintain interleukin-5 without altering skeletal muscle strength: a randomized, double-blind, placebo-controlled study in vitamin D sufficient adults. *Nutr Metab.* 2012;9(1):16. doi:10.1186/1743-7075-9-16

PFP030-DS