Adaptogens for Athletes

What is an adaptogen?
Adaptogens have been around for thousands of years. Chinese herbalists have used the power of adaptogens for a wide array of ailments and treatments. Many Chinese and modern herbal preparations add adaptogens to specifically targeted formulas in order to round out the benefits within the formula. The mechanism of adaptogens, has never been clearly defined or understood. An adaptogen can be defined as a substance that is safe, increases resistance to stress, and has a balancing effect on body functions. Supplements that causes adaptive reactions appear to increase (SNIR)(State of Non-specifically increased Resistance) in the human body, protecting against various stresses. Adaptogen’s meet three criteria a) must cause minimal disorders in the physiological functions in the body b) must have a non-specific action c) has normalizing action irrespective of the direction of the pathological state. One of the major actions of an adaptogen is an increased resistance to the catabolic effects of stress, including physical stress such as strenuous exercise, possibly by exerting favorable effects on the secretion of cortisol. Cortisol is a hormone that is released by the adrenal cortex, which is affected by adaptogens. Cortisol's main function in the body is to reduce the catabolic effects of intense exercise and stress. From this definition of adaptogens you can clearly see how these substances could potentially help a wide selection of athletes with their training and competitions.

What will an adaptogen do for me?
As you increase your training you increase the physiological stresses put on your body. These added stresses force your body to use it’s natural defense mechanisms to help repair and replace any damage that has occurred. Using adaptogens essentially allows this defense mechanism to work more efficiently. From the above definitions you can expect your body to adapt positively to intense stress put on by exercise, allowing you to train at a higher level. It’s like preparing your car for a cold winter season. Adding the right grade oil, snow tires, anti-freeze and a tune up prepares your car for frigid temperatures of winter driving. Taking adaptogens throughout your intense training prepares and protects your body from the added stress of exercise. Ginseng, ashwagandha, schisandra, rhodiola, coryceps, reishi and maitake are all well studied adaptogens. Research done on Rhodiola and Coryceps have supported their ability to increase performance in athletes. Herb’s like Rhodiola have been known to slow glycogen utilization and increase fatty acid utilization, hence reducing lactic acid build-up, leading to improved athletic performance.

Who can benefit from adaptogens?
Anyone training at a high elite level or, training for their first time will feel the benefits of adaptogens. A recent study done with Cordyceps CS-4 showed significant improvement in Peak VO2 and VO2max. Both of these measures are good indications of aerobic capacity in athletes and non-athletes. When training at an elite level, you attempt to push your body to and above it’s limit day in and day out. Athletes traveling to altitude have been shown to significantly adapt to the stress of reduced oxygen when using Rhodiola. Anyone starting a new training program (IE training for your first 10K or marathon), also puts added stress on the body. Athletes, who train simply to stay in shape or maintain a constant level, may not see as much benefit from adaptogens.

Are all adaptogens the same?
As a class of ingredients, adaptogens are all very safe and focused on keeping body functions ‘normal’. Adaptogens work to reduce lactic acid during states of maximum lactate build up. Some adaptogens work better at a given set of functions then others. Both Rhodiola and Cordyceps CS-4 have clearly been shown to ‘adapt’ to the stresses brought on by intense physical activity. Ginseng may have the longest list of adaptive properties, including recovery from traumatic events, exercise, chronic fatigue.
References:
The stimulating affect of Rhodiola is also clearly manifested in the performance of physical work as stated by Dr. S. F. Tuzov. Dr. Tuzov studied the influence of extracts of Rhodiola on the capacity of athletes for muscular work in the performance of physical loads of great and maximal intensity with varied physiological characteristics. Maximal intensity accomplished within tens of a second is characterized by the maximal rate of muscle movements and by oxygen consumption at the level of 90% - 100% of maximal oxygen consumption. This offers maximal stress to the CNS, which may induce the development of protective inhibition. A relatively large oxygen debt is characteristic for it, although oxygen demand is comparatively fairly small. The rapid accumulation of the intracellular lactate leads to auto-inhibition of the process. Under the influence of Rhodiola extract the volume of repeat work performed after proceeding proportioned work increase by 28%. After administering Rhodiola rosea in an experiment on 140 athletes, 74% of the test subjects obtained their best results in a 3,000 meter run. It was concluded that Rhodiola roseae extract increased physical work capacity, decreased fatigue and improved the general mental and physical state of the test subjects.

Cordyceps

Rhodiola Rosea