With the rise of democracy and the crumbling of political boundaries in the previous USSR, many long-time Russian secrets were slowly revealed to the western world. One of these secrets used to give Soviet athletes a decided advantage—one that we can now share. It's a plant called Rhaponticum carthamoides, and it contains a remarkable substance called 20-Hydroxyecdysone which helps promote increases in muscle mass and athletic performance.

Building muscle & increasing performance with dietary supplements
When it comes to building muscle and increasing performance, the sky’s the limit as far as choices for possible dietary supplements to support the process are concerned. Unfortunately, very few of these supplements have appropriate scientific research to support their marketing claims. There are, of course, a few that do. These include legal, sublingual androgens (e.g., androstenediol), creatine, and quality protein isolates (e.g., whey, soy and casein). Each of these dietary supplements work by a different mechanism, so a “stack” which included all of them would be complementary, rather than redundant. This should, ideally, also be the case with any new dietary supplements which may be added to such a stack. That’s the beauty 20-Hydroxyecdysone.

Phytoecdysteroids and polyribosomes
20-Hydroxyecdysone belongs to a class of natural substances called phytoecdysteroids (i.e., plant-based steroids). Animal research has shown that phytoecdysteroids are active in protein biosynthesis (anabolism). It does this by increasing the activity of polyribosomes. Polyribosomes are the cytoplasmic compartments within cells where actual protein synthesis takes place. The result is an increase in body mass. This phytoecdysteroid-stimulated protein synthesis works differently than anabolic steroids, and is independent of testosterone.

Rhaponticum carthamoides and 20-Hydroxyecdysone for building muscle
In animal research, 20-Hydroxyecdysone extracted from Rhaponticum carthamoides resulted in a 115% increase in developing body mass. In other animal research 20-Hydroxyecdysone was compared to the anabolic steroid, methandrostenolone. Both the methandrostenolone and 20-Hydroxyecdysone stimulated the biosynthesis of contractile proteins in the skeletal muscles. However, the action of methandrostenolone was limited to slow-contracting muscles, while 20-Hydroxyecdysone produced anabolic effects in various types of skeletal muscles. As a matter of fact, the 20-Hydroxyecdysone caused statistically significant increases in skeletal muscle mass and muscle protein
content.³

At this point you may be thinking, “OK, so 20-Hydroxyecdysone can help animals get muscular; but what about humans?” If so, you’ll be pleased about this next bit of research. Studies in Russia on human subjects found that under conditions of aerobic-anaerobic training for three weeks, 20-Hydroxyecdysone was able diminish body fat content, while elevating muscle mass.⁴ A similar study found that a combination of 20-Hydroxyecdysone with a protein supplement given to athletes resulted in up to a 13.71% reduction in fat content, together with up to a 7.10% increase in muscle tissue mass (compared with up to a 2.99% decrease in muscle in the placebo group).⁵ Yet another study conducted on 117 highly qualified speed skaters also demonstrated that Rhaponticum was able to increase anabolic protein metabolism, and body weight.⁶

Clearly, 20-Hydroxyecdysone from Rhaponticum carthamoides is capable of supporting an anabolic increase in muscle mass, as well as a decrease in body fat. But beyond that, this plant extract has also been shown to be effective in enhancing performance.

Rhaponticum carthamoides and 20-Hydroxyecdysone for enhancing performance

effects. This study provides reliable data for the recommendation that Rhaponticum by recommended as a preventive remedy for fatigue, to increase nonspecific resistance, and to improve human mental and physical work capacity.⁹

Another study was conducted on 47 sailors after four months of sailing when symptoms of fatigue were displayed. After taking the Rhaponticum extract, sleep normalized, appetite increased, and the general mental and physical state was improved in the test subjects, and their work capacity increased. By contrast, there was a tendency towards worsening of the physical and mental state in the control group who did not take the Rhaponticum. The authors of this study advised that Rhaponticum by used as a preventive remedy for increasing general endurance and “functional activity”.¹⁰

The aforementioned study conducted on 117 highly qualified speed skaters also demonstrated positive results in terms of performance. The results of a 20-day cycle of taking Rhaponticum extract were a significant increase in work capacity compared the placebo group. The Rhaponticum group also experienced a tendency toward improved aerobic capacity, and a decrease in heart beat rate. Also,
Rhaponticum was able to reliably increase the available reserves of the adrenal glands (that is, increase the adrenal hormones after stimulation of the adrenal glands), which reflects the ability of this plant extract to increase the athletes adaptive abilities to physical work load.

**Conclusion**

Whether you’re just considering using a dietary supplement for the first time to help you with you’re bodybuilding and performance goals, or you’re simply looking for the next great supplement to add to your current stack, Rhaponticum carthamoides extract which provides 20-Hydroxyecdysone may help you experience increases in muscle mass and athletic performance.

**References**