

MD+ **Resolve** - Ephedrine Free, **Pre-Workout Metabolic Primer**

Resolve is Part of Exersol, THE EXERCISE SOLUTION, which also includes Power Drink and Amino
<http://www.exersol.com>



Resolve represents a new paradigm in pre-training supplements. Unlike the other single purpose products out there, it does it all by priming your metabolism so your body can make the best use of the anabolic and fat burning effects of exercise.

Resolve provides anticatabolic and anabolic effects by increasing levels of testosterone and growth hormone, decreasing protein breakdown, increasing protein synthesis and providing cell volumizing effects that increase muscle growth. They also maximize energy levels, ATP and phosphocreatine (PC) functioning, as well as gluconeogenic, TCA Cycle flux, and other processes, allowing for more strength and stamina. As well, it provides potent thermogenic and fat loss properties, increasing fat breakdown and utilization and decreasing fat buildup. And finally it exerts a potent antioxidant, buffering and cytoprotective effects to decrease muscle tissue injury and soreness and improve recovery.

Resolve:

- 1. Increases insulin sensitivity**
- 2. Increases GH and IGF-I levels**
- 3. Increases testosterone secretion**
- 4. Decreases serum cortisol**
- 5. Increases both aerobic and anaerobic energy production**
- 6. Increases neurotransmitter levels in the brain**
- 7. Decreases central and peripheral fatigue**
- 8. Increases nitric Oxide production (NO)**
- 9. Provides buffering of lactic acid production**
- 10. Decreases inflammation and muscle and tendon damage**
- 11. Maximizes macronutrient metabolism**
- 12. Increases protein synthesis**
- 13. Increases the breakdown and oxidation of body fat**
- 14. Decreases markers of heart disease and inflammation**

The bottom line is that Resolve will help you train more effectively and will maximize the anabolic and fat burning effects of exercise like no other product on the market today.

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Anabolic Effects

The most potent hormonal mix for maximizing muscle mass and strength is the simultaneous increase in testosterone, insulin, GH and IGF-I and a decrease in cortisol while training. That's because all five can work together synergistically to maximize muscle mass and minimize body fat.

Ingredients for increasing serum testosterone and decreasing serum cortisol include: Beta Ecdysone Deer Antler Velvet Extract, Zinc (monomethionine), Magnesium, B6, vitamin C Boron, 5-Methyl Methoxy Isoflavone, Cordyceps Sinensis.

Ingredients for increasing serum levels of GH and IGF-I: Arginine, Mucuna Pruriens (L-dopa), melatonin. For example taking melatonin prior to training has been shown to increase GH secretion.¹

Ingredients for increasing insulin sensitivity and anabolic effects include: Alpha Lipoic Acid (ALA), Banaba Extract (corosolic acid), Chromium, cinnamon,²³ green tea extract,⁴ Prickly Pear Extract, and vitamin A.

Also Resolve contains several amino acids that have a direct anabolic effect and provide elevated serum levels at the beginning of exercise. These include: asparagine, aspartate, alpha-ketoglutarate (glutamine, glutamate substrate), alanine, arginine, phenylalanine and tyrosine. See the description on Power Drink, the second formulation in Exersol, the exercise solution, for information on how the hyperaminoaccedemia is maintained throughout the training session.

As well, Resolve contains taurine and potassium, both which provide volumizing effects that are felt to lead to an increase in protein synthesis

AntiCatabolism - Maximizing The Training Effect

Minimizing physical damage to the neuromusculoskeletal system is crucial to maximizing the training effect. That's because it's not muscle breakdown (catabolism) that provides the adaptation stimulus for increasing muscle size and strength, it's the microscopic damage done to the muscle cell structure and the subsequent adaptation to that damage that determines the muscle and strength building response.

You don't have to break down the muscle at all to get this response in full force. In fact doing so is counter productive. The more muscle you keep from breaking down, and the more you increase protein synthesis, the better the results from your training.

As well, minimizing trauma to the nervous and musculoskeletal system by protecting them at both the tissue and cellular levels, decreases the chance of injury and increases recovery.

Ingredients having antioxidant, neuroprotective and cytoprotective effects include: Taurine, Melatonin, Arginine, Histidine, NAC (N-Acetyl Cysteine), Glutathione, Vitamin C, Co-Enzyme Q10.

Fat Mobilization and Oxidation

Resolve shifts the fuel you use for training from carbs and muscle protein to fats. Thus the fuel you need to train comes mostly from fatty acids and ketones, which in turn are produced by the breakdown and oxidation of body fat.

Ingredients that increase body fat breakdown and oxidation: L-carnitine, Choline, Phosphatidylcholine, Inositol, Caffeine, Guarana extract Green Tea Extract Theobroma Cocoa Complex Panax Ginseng Extract, Kola Nut Extract.

Increasing Energy and Decreasing Fatigue

There are a number of components in the energy equation. First of all a pre-training primer should get you physically and emotionally geared up for working out. Then it should make the workout seem easier to do even though you may be exerting yourself to the max. It should also give you more aerobic and anaerobic energy for working out and decrease both mental (central) and neuroskeletal (peripheral) fatigue. Finally it should enhance recovery.

Getting You In The Mood

There are a number of ingredients in Resolve that act on the cellular level in muscle and on the peripheral and central nervous system to increase physical and mental drive and energy so you're mentally and physically ready to train. These same ingredients stimulate you while you're training to help keep your energy level higher and fatigue lower.

Caffeine, Guarana extract Green Tea Extract Theobroma Cocoa Complex Panax Ginseng Extract, Wheat Germ Extract, Kola Nut Extract,

Decreasing Mental Fatigue

In addition to focusing on the causes of muscle fatigue, recent research has also centered on mental fatigue during exercise. This is commonly called central fatigue because it results from impaired function of the central nervous system. Although central fatigue does not affect your muscles directly, it can reduce your capacity to perform. Increasing neurotransmitter levels also decreases perceived exertion. The result is more focused and productive training sessions.

Increasing neurotransmitter levels, increasing CNS energy, increasing well-being, and decreasing central fatigue. L-Phenylalanine, L-Tyrosine, DMAE (dimethylaminoethanol), taurine, caffeine.⁵

Increasing Anaerobic and Aerobic Energy Levels and Decreasing Muscle Fatigue

There are various ingredients in Resolve that will increase both glycolytic and Tricarboxylic Acid Cycle (TCA cycle, Krebs's Cycle) flux and thus increase the availability of ATP both aerobically and anaerobically. These increases result in you having more energy to

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perform better and longer while you're training and/or competing. The increased energy availability results in an increased muscle cell growth and fat loss and improved recovery.

Ingredients for increasing TCA cycle flux, mitochondrial function, gluconeogenesis and aerobic and anaerobic neuromuscular energy include: Potassium succinate L-Carnitine fumarate L-Arginine Alpha Ketoglutarate, L-Arginine-aspartate Asparagine, Calcium Pyruvate, Inosine, Alanine (gluconeogenic substrate, ammonia carrier and anticatabolic amino acid).

Increasing Nutrient Delivery to Working Muscle by enhancing Nitric Oxide Levels

Increasing nitric oxide levels during training increases oxygen and nutrient delivery to muscle and results in increased training effects and recovery. A special proprietary blend of arginine alpha ketoglutarate and arginine aspartate results in a significant increase in NO production while you train.

Electrolytes, minerals and buffering effects

Increasing potassium, phosphate, copper and magnesium levels, and providing a buffering agent gets your workout off on the right foot by taking care of any possible marginal deficiencies and decreasing your tendency to cramping.

Resolve contains: Calcium phosphate, dibasic, Potassium phosphate, potassium succinate, magnesium phosphate, Carnosine, Histidine and Copper.

Carnosine, along with histidine, a precursor of carnosine that also has antioxidant and muscle buffering effects on it's own, as well as being important for protein synthesis, are integral parts of Resolve. Carnosine has antioxidant and buffering properties that make it useful for increasing exercise performance under anaerobic conditions and thus as a pre-training supplement.⁶ As well, carnosine has been implicated as an anti-aging supplement, as well as having significant anti-fatigue properties.

Boosting Recovery - Adaptogens

There are a number of compounds and adaptogens that help you deal with the stress of exercise by enhancing recovery.

Ingredients boosting recovery and having adaptogenic effects include: Cordyceps Sinensis, ginseng, prickly pear extract, silicon.

Increasing Health And Energy, And Boosting The Immune System

Resolve contains B12 (methylcobalamin – the biologically active form of B12), folic acid, B6 and DMG. These ingredients optimize macronutrient metabolism and help maximize muscle mass and decrease body fat. As well, they decrease serum levels of homocysteine, cholesterol and C-Reactive proteins, markers of heart disease and inflammation in the body.inflammation in the body.

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Supplement Facts:		Serving Size: 5 Tablets	
		Servings Per Container: 24	
	Amount Per Serving	% Daily Value	Amount Per Serving
			% Daily Value
Vitamin A (as palmitate)	2,500 IU	50%	Resolve™ Proprietary Complex 4095 mg Alpha Lipic Acid, Asparagine, Aspartate, Banaba Extract (leaf), Beta Ecdysone, Calcium Pyruvate, Carnosine, Cayenne (pepper), Choline Bitartrate, Cinnamon (bark), Co-Enzyme Q10, Cordyceps Sinensis Extract (mushroom), Deer Antler Velvet Extract DMAE (dimethylaminoethanol) Bitartrate, DMG (di-methyl-glycine), Ginger (root), Glutathione (reduced), Green Tea Extract (leaf), Guarana extract (seed), Inosine, Kola Nut Extract (seed), L-Alanine, L-Arginine Alpha Ketoglutarate, L-Arginine-Aspartate L-Carnitine fumarate, Lecithin (phosphatidylcholine complex), L-Histidine, L-Phenylalanine, L-Tyrosine, Magnesium Octadecanoate, 5-Methyl Methoxy Isoflavone, Melatonin, Mucuna Pruriens Extract (seed), NAC (N-Acetyl Cysteine), Panax Ginseng Extract (root), Prickly Pear Extract (nopal), Potassium Succrate, Silicon Dioxide, Taurine, Theobroma Cocoa Complex, Wheat Germ Extract (seed), White Willow Bark.
B6 (as pyridoxine HCL)	10 mg	500%	
Folic acid	400 mcg	100%	
B12 (methylcobalamin)	400 mcg	667%	
Vitamin C (as ascorbic acid)	250 mg	417%	
Calcium (as calcium phosphate, dibasic)	250 mg	25%	
Potassium (as K phosphate, K succinate)	99 mg	1%	
Magnesium (as magnesium phosphate)	125 mg	31%	
Chromium (as CHROMEMATE™ polynicotinate)	100 mcg	83%	
Copper (citrate)	100 mcg	5%	
Zinc (monomethionine)	15 mg	100%	
Boron (chelate)	3mg	*	
Caffeine USP	99 mg	*	
Other Ingredients: Cellulose, Stearic Acid, Modified Cellulose Gum, Hydroxypropylmethyl Cellulose.			
*Daily Value not established			

References

- Meeking DR, Wallace JD, Cuneo RC, Forsling M, Russell-Jones DL. Exercise-induced GH secretion is enhanced by the oral ingestion of melatonin in healthy adult male subjects. *Eur J Endocrinol* 1999 Jul;141(1):22-26.
- Khan A, Safdar M, Ali Khan MM, Khattak KN, Anderson RA. Cinnamon improves glucose and lipids of people with type 2 diabetes. *Diabetes Care*. 2003 Dec;26(12):3215-8.
- Qin B, Nagasaki M, Ren M, Bajotto G, Oshida Y, Sato Y. Cinnamon extract (traditional herb) potentiates in vivo insulin-regulated glucose utilization via enhancing insulin signaling in rats. *Diabetes Res Clin Pract*. 2003 Dec;62(3):139-48.
- Broadhurst CL, Polansky MM, Anderson RA. Insulin-like biological activity of culinary and medicinal plant aqueous extracts in vitro. *J Agric Food Chem*. 2000 Mar;48(3):849-52.
- Seidl R, Peyrl A, Nicham R, Hauser E. A taurine and caffeine-containing drink stimulates cognitive performance and well-being. *Amino Acids*. 2000;19(3-4):635-42.
- Suzuki Y, Ito O, Mukai N, Takahashi H, Takamatsu K. High level of skeletal muscle carnosine contributes to the latter half of exercise performance during 30-s maximal cycle ergometer sprinting. *Jpn J Physiol*. 2002 Apr; 52(2): 199-205.