Mitochondrial Renewal Kit

Comprehensive Mitochondrial Biogenesis Formula

Clinical Applications

- Promotes Efficient Use of Insulin and Glucose in the Body*
- Enhances Conversion of Glucose into Usable Energy*
- Promotes Healthy Aging*
- Increases Exercise Performance*
- Promotes Nitric Oxide (NO) Production*
- Supports Cardiovascular and Endothelial Function*
- Improves Antioxidant Status and Resistance to Oxidative Stress*

*The XYMOGEN Mitochondrial Renewal Kit (MRK) is formulated to support and promote mitochondrial biogenesis and function. MRK supplies 3 active, orally bioavailable formulations—N.O.max™ ER, Resveratin™ Plus, and ALAmax™ CR—which function synergistically to support the critical role that mitochondria play in metabolism. The functional components found in the MRK are safe, well-tolerated, and have been uniquely prepared to enhance both absorption and overall bioavailability to maximize patient benefit and satisfaction.**

Discussion

Mitochondria are the organelles inside cells that produce energy. Mitochondria represent approximately 10% of total body weight and play several roles in the body. Primarily, they are like cellular fuel stations, supplying greater than 95% of the body's energy needs.[1] Mitochondrial biogenesis is believed to delay the effects of aging and the onset of age-associated diseases.[2-5] This complex process involves more than 1,000 genes[2] and is responsible for producing 20% of total cellular protein.[1] Aerobic exercise and caloric restriction are the 2 most compelling approaches to stimulate mitochondrial biogenesis,[2,3] most notably by activating the "master regulator" of mitochondrial biogenesis and function known as PGC-1α, a transcriptional coactivator. Dysregulation of PGC-1α has been implicated in aging and the pathogenesis of numerous age-associated complications, such as poor glucose control, increased fat mass with accompanying decrease in muscle mass, and various neurological conditions.*

PGC-1α–deficient animals display defects in energy metabolism, glucose disposal, and insulin action. These deficient animals also display reduced resistance to oxidative stress, increased fat mass, decreased muscle mass, impaired exercise performance, and other issues suggestive of an impaired ability to adapt to metabolic and physiological stress.[6] Conversely, PGC-1α activation contributes to an increase in metabolic fitness in the form of an increased metabolic rate, improved glucose disposal and insulin function, enhanced fatty acid oxidation, increased resistance to oxidative stress, decreased fat mass, and increased muscle mass and exercise performance.*

The nutrients in the Mitochondrial Renewal Kit have been selected for their bioavailability, safety, and efficacious activation of PGC-1α and upstream cellular signaling cascades. This efficacy may mimic the effects of exercise and caloric restriction on mitochondrial biogenesis, metabolic fitness, and aging. Key signaling cascades affected include those involving nitric oxide (N.O.max™ ER), sirtuin 1 (Resveratin™ Plus), and AMPK (ALAmax™ CR). Ultimately, it is the stimulation of these cascades that leads to the activation of PGC-1α, subsequent upregulation of mitochondrial biogenesis, and promotion of overall metabolic fitness. For optimal benefit, combine this product with a healthy diet and exercise regimen.*

N.O.max™ ER is an extended-release formulation containing L-arginine α-ketoglutarate and ACTINOS™, a proprietary whey peptide fraction. This combination serves as an effective nitric oxide (NO) precursor. As a vasodilator, NO exerts a protective effect on the endothelial lining of the blood vessel.[7] Within the cell, NO plays an important role in intracellular communication, acting as a trigger for mitochondrial biogenesis.*[8]

Resveratin™ Plus contains a powerful blend of polyphenols, including quercetin, a flavonol known for its antioxidant activity, and trans-resveratrol and trans-pterostilbene, stilbenoids known for their cardioprotective effects. These ingredients are selected for their quality, natural phytochemical form, and bioavailability. This formula is designed to promote healthy aging through cell-life regulation and support of heart and immune system health.*

ALAmax™ CR is a multifunctional antioxidant that has the ability to neutralize free radicals in both aqueous- and lipid-based cell environments. In addition, ALAmax CR's controlled-release formulation provides protection over an extended period of time[10] promoting the synthesis of glutathione and "recharging" other important antioxidants, such as vitamin C, vitamin E, and coenzyme Q10.*

***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**

Mitochondrial Renewal Kit Supplement Facts

Serving Size: 1 Packet

	1 ALAmax™ CR Tablet		3 N.O.max™ ER Tablets		1 Resveratin™ Plus Capsule	
	Amount Per Serving	%DV	Amount Per Serving	%DV	Amount Per Serving	%DV
Biotin	450 mcg	1,500%				
L-Arginine *alpha*-Ketoglutarate			1.98 g	**		
Alpha-Lipoic Acid	600 mg	**				
Quercetin (as quercetin dihydrate)(*Sophora japonica*)(bud)					250 mg	**
Hydrolyzed Whey Protein[S1]			150 mg	**		
trans-Resveratrol (as *Polygonum cuspidatum* root extract)					75 mg	**
trans-Pterostilbene[S2]					62.5 mg	**

** Daily Value (DV) not established.

Other Ingredients for ALAmax CR: Hydroxypropyl methylcellulose, hydroxypropyl cellulose, dicalcium phosphate, sodium stearyl fumarate, silica, magnesium stearate, and coating (hydroxypropyl methylcellulose and medium-chain triglycerides).
Other Ingredients for N.O.max ER: Hydroxypropyl methylcellulose, stearic acid, hydroxypropyl cellulose, silica, coating (hydroxypropyl methyl cellulose and medium-chain triglycerides), and magnesium stearate.
Other Ingredients for Resveratin Plus: Capsule (hypromellose and water), microcrystalline cellulose, stearic acid, magnesium stearate, silica, and medium-chain triglyceride oil.
N.O.max ER Contains: Milk.

DIRECTIONS: Consume the contents of 1 packet with 8 oz. water, 30 minutes before breakfast and 30 minutes before lunch, or use as directed by your healthcare professional.

Consult your healthcare professional prior to use, especially if you have or suspect you have a medical condition, including diabetes or cold sores; if you take prescription drugs or are allergic to any ingredient; or if you are pregnant or lactating. Keep out of reach of children. This product is not intended for use by individuals under 18 years of age. Do not use if packet is damaged.

STORAGE: Keep closed in a cool, dry place out of reach of children.

FORMULATED TO EXCLUDE: Wheat, gluten, yeast, soy, fish, shellfish, peanuts, tree nuts, egg, sesame, ingredients derived from genetically modified organisms (GMOs), artificial colors, and artificial sweeteners.

ACTINOS S1. ActiNOS™ is a trademark of Glanbia plc.

pTeroPure S2. Pteropure® is a registered trademark of ChromaDex, Inc.

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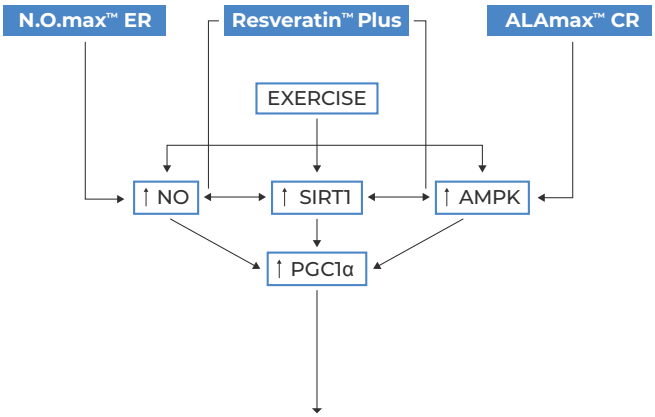

↓ Decreases Free Radicals/Oxidative Stress*

↑ Helps Maintain Mitochondrial Biogenesis/Function*

↑ Promotes Efficient Metabolic Function*

↑ Supports Energy Production*

↑ May Help Maintain Exercise Performance*

↑ May Help Upregulate Antiaging Mechanisms*§

§ Based on emerging experimental research.

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All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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