XYMOGEN®EP

EXCLUSIVE·PATENTED

Mitochondrial Renewal Kit

RESTORE YOUR METABOLIC EDGE†

Resveratin™ — RESVERATROL / PTEROSTILBENE COMPLEX

N.O.max ER™ — EXTENDED-RELEASE ARGININE ALPHA-KETOGLUTARATE

ALAmax CR™ — CONTROLLED-RELEASE ALPHA-LIPOIC ACID

DESCRIPTION

The XYMOGEN Mitochondrial Renewal Kit (MRK) supplies three pharmacologically-active, orally-bioavailable nutraceutical formulas intended for use in promoting mitochondrial biogenesis. The nutraceuticals found in the MRK are safe and well-tolerated and have been uniquely prepared to enhance both absorption and residence time in the body so as to maximize patient benefit and satisfaction. All XYMOGEN formulas meet or exceed certified Good Manufacturing Process (cGMP) quality standards.

NUTRITIONAL PHARMACOLOGY

Mitochondrial biogenesis is the process by which new mitochondria are produced. Representing ~10% of body weight, mitochondria are cellular "fuel stations" responsible for supplying >95% of the body's energy needs, among other roles[1].

Mitochondrial biogenesis can delay aging and the onset of age-associated disease[2-4]. This complex process involves more than 1,000 genes[2] and is responsible for producing 20% of total cellular protein[1]. Exercise and caloric restriction are two of the most powerful means of stimulating mitochondrial biogenesis[2,3], most notably by activating the "master regulator" of mitochondrial biogenesis and function and metabolic fitness known as PGC-1α. PGC-1α is a transcriptional co-activator whose dysregulation has been implicated in aging and the pathogenesis of numerous age-associated diseases including but not limited to diabetes, obesity, sarcopenia and various neurological conditions.

PGC-1α-deficient animals display defects of energy metabolism, glucose disposal and insulin action, as well as reduced resistance to oxidative stress, increased fat mass, decreased muscle mass, impaired exercise performance and other problems suggestive of an impaired ability to adapt to metabolic and physiological stress[5]. Conversely, PGC-1α activation contributes to an increase in metabolic fitness in the form of an increased metabolic rate; improved glucose disposal, fatty acid oxidation and insulin function; increased resistance to oxidative stress, decreased fat mass and increased muscle mass and exercise performance.

In addition to being awarded several U.S. patents, the nutraceuticals found in the MRK have been clinically tested for their oral bioavailability, safety and efficacy in activating PGC-1α and upstream cellular signaling cascades (see diagram on other side), thereby mimicking the powerful protective effects of exercise and caloric restriction on mitochondrial biogenesis, metabolic fitness, aging and the onset of age-associated diseases.

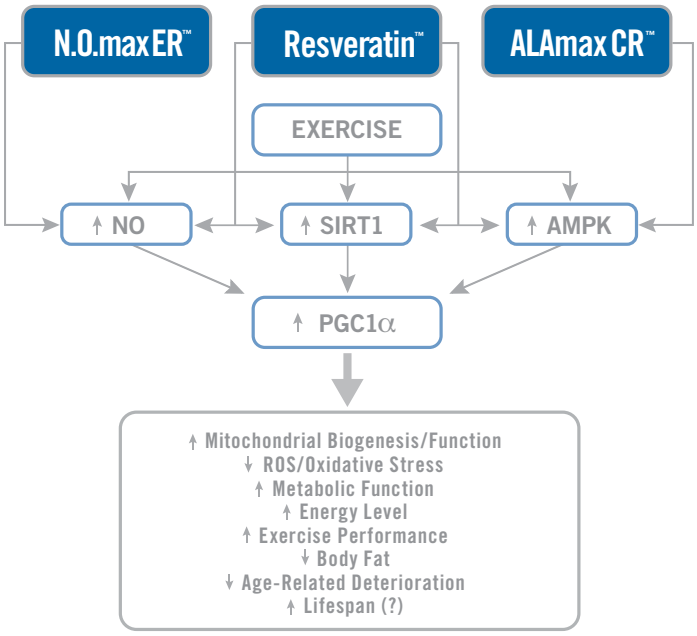

FIGURE 1: The Mitochondrial Renewal Kit (MRK), consisting of N.O.maxER™, Resveratin™ and ALAmax CR™ contains pharmacologically-active, orally-bioavailable nutraceuticals that have been clinically tested for their safety and efficacy in stimulating key cellular signaling cascades involving Nitric Oxide (NO)(N.O.Max ER), SIRT1 (Resveratin) and AMPK (ALAmax CR), among others. These pathways ultimately lead to the activation of PGC-1α, the "master regulator" of mitochondrial biogenesis and function and metabolic fitness whose dysfunction has been associated with a number of age-associated diseases including but not limited to diabetes, obesity, sarcopenia and various neurological conditions.

PATIENT BENEFITS

Used as directed, the XYMOGEN Mitochondrial Renewal Kit may help promote:

- Improved insulin sensitivity and action†
- Improved glucose disposal†
- Improved exercise performance†
- Increased Nitric Oxide (NO) production†
- Improved cardiovascular and endothelial function†
- Improved appetite control†
- Reduced fat mass†
- Increased muscle mass†
- Improved exercise performance†
- Improved antioxidant status and resistance to oxidative stress†

SCIENTIFIC REFERENCES

1. Gofart and Wiesner (2003). Exp Physiol, 88(1): 33.
2. Lopez-Lluch G et al. (2008). Exp Gerontol, 43(9): 813.
3. Lanza IR et al. (2008). Diabetes, 57(11): 2933
4. Johnston AP et al. (2008). Appl Physiol Nutr Metab, 33(1): 191.
5. Leone et al. (2005). PLoS Biol, 3(4): e101.

U.S. PATENTS 6,191,162(B1); 6,197,340(B1); 6,572,888(B2); 6,905,707; 7,118,762(B2)

† 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.

For physician and other licensed health professional education only.