KreAlkalyn Pro is a very stable, bioavailable and pH balanced, form of the well researched creatine monohydrate. This is a caffeine-free version of the creatine monohydrate used in our product KreAlk-Alert. KreAlkalyn Pro will be ideal for anyone with sensitivities to stimulants who may still want to reap the many benefits of ingesting creatine on a daily basis. With an impressive 900 mgs of this unique buffered creatine monohydrate ingredient per capsule, only 1 or 2 capsules per day are required to reach optimal cellular levels.

**Aging is Associated with Low Muscle Creatine Levels**

Creatine is possibly the most promising anti-aging supplement available in the industry today. A tremendous amount of research has been published between 1998 and now that has helped us to understand this very important nutrient and how it functions in the human body. Creatine supplementation, in a stabilized, alkaline form so it does not raise creatinine, does so much more than simply help athletic performance and muscle building. Creatine supplementation has numerous physiological effects, which have the potential to substantially reduce morbidity and mortality.

Aging is associated with lower skeletal muscle creatine and phosphocreatine levels. After age 30, phosphocreatine resynthesis rates after exercise fall 8% per decade. In a double-blind placebo-controlled study, in which subjects had a leg immobilized for two weeks then underwent an exercise rehabilitation program, creatine supplementation resulted in more rapid restoration of strength and muscle mass. Creatine should therefore benefit older individuals who are recovering from bed-rest or immobilization of a limb due to injury, surgery or illness.

About 95% of the body's creatine is found in the skeletal muscles, particularly type 2 fibers. Creatine is also found in other tissues, including the brain, heart, endothelial cells, macrophages, kidneys, liver, smooth muscles and testes. The body has a limited capacity for creatine synthesis and those individuals who consume creatine-rich foods have higher creatine tissue levels. Dietary creatine is most concentrated in herring, pork, beef, salmon and tuna. Consistent with this fact, vegetarians appear to have lower tissue creatine concentrations. Low phosphocreatine levels result in lower levels of ATP. Greater phosphocreatine levels translate into greater cellular energy production. With regard to skeletal muscle, phosphocreatine is involved primarily in the first ten seconds of very high intensity contraction.

Creatine supplementation can increase tissue concentrations to a level that is unobtainable through diet alone. The activity of the creatine transporter plays an important role in the ultimate response to creatine supplementation. It is one thing to raise plasma creatine levels through supplementation but the benefits from creatine come only through transport into the cell, by the creatine transporter. Insulin has clearly been demonstrated to stimulate cellular creatine uptake. There is evidence that the insulin sensitizing compound alpha lipoic acid can facilitate cellular creatine accretion. High intensity exercise promotes creatine transport into the muscles that are worked. In vitro studies have also shown stimulation of the creatine transporter by IGF-1, triiodothyronine (T3), and norepinephrine.
Insulin Sensitivity

There are several lines of evidence to suggest creatine supplementation improves insulin sensitivity. Insulin resistance appears to be a central metabolic aberration contributing to unhealthy aging and reduced lifespan. This was illustrated by a study involving 208 healthy men who were evaluated for their insulin sensitivity and then followed for an average of six years. They were divided into three groups, according to insulin sensitivity. After the study period, one out of every three men in the tertile with the poorest insulin sensitivity had developed hypertension, type 2 diabetes, cancer, heart disease or stroke. All of the men in the group with the best insulin sensitivity remained healthy. The effects of creatine supplementation that point toward improved insulin sensitivity include lowering of elevated plasma triglyceride and VLDL and total cholesterol levels, increasing muscle glycogen stores, and a trend toward lower fasting blood glucose levels. Additionally, levels of Glut 4 protein were found to increase by 40% in response to creatine supplementation compared to placebo. Glut 4 protein is involved in insulin-stimulated muscle glucose uptake. When combined with supplemental protein and resistance training, creatine resulted in improved glucose tolerance test results.

Kre-Alkalyn®

Kre-Alkalyn® is the only creatine (kree-AT-teen) supplement that does not convert to creatinine (kree-AT-ah-teen), a metabolite of creatine, in the bloodstream before it reaches muscle cells. Many of the unpleasant side-effects of taking high-dose creatine supplementation (i.e., nausea, diarrhea, cramps and bloating) are not from the creatine, but from the metabolite creatinine. Since Kre-Alkalyn® is the only creatine with a pH above 12 it will not convert to creatinine in liquids, including the bloodstream. This results in less of the aforementioned side effects and more creatine delivered to the muscle and other tissues. This means more clinical efficacy at much lower doses (no more "loading") than is required with regular creatine powder.

*Kre-Alkalyn® is an approved supplement by the International Olympic Committee.

Who should take KreAlkalyn Pro?  Vegetarians, elderly, weekend warriors, diabetics, patients with metabolic syndrome, bedridden individuals, and anyone wishing to increase muscle and/or improve athletic performance.

How to take?  1-2 capsules daily is sufficient for most applications and is recommended for maintenance. May be taken along with Lipoic Synergy, Whey Cool or RiboCarniClear.

References:

1. Wyss, M., Kaddurah-Daouk R. Creatine and creatinine metabolism. Physiol Rev 80:1107-1213


