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## PRODUCTS

The Life Extension Foundation regularly profiles and evaluates important new products on the market, often making them available directly to you, as well as to Foundation members at a discount via the Life Extension Buyers Club.

### New Study Confirms CLA's Anti-Fat Effects

It keeps getting better! The interest in Conjugated Linoleic Acid (CLA) continues to grow as more evidence is compiled, in study after study, showing how remarkable this dietary supplement is. And the Life Extension Foundation (LEF) has been there since the beginning.

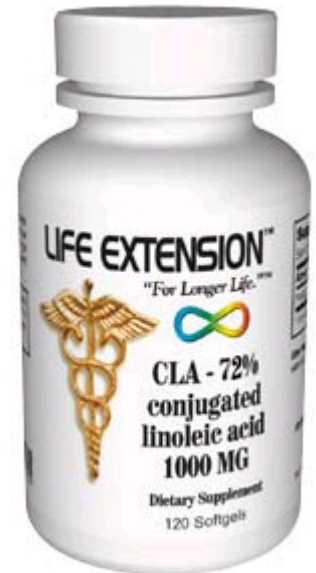
In July of 1996, LEF first made CLA, under the brand name "Lipaen," available to its members. Up until then, CLA simply was not available anywhere. At the time of Lipaen's launching, numerous studies were already published detailing CLA's powerful anti-carcinogenic and anti-catabolic effects, as well as its potent antioxidant properties. In fact, the antioxidant effects of CLA were shown to be twice as potent as beta-carotene! What was even more significant was the fact that only relatively small amounts of CLA were required to achieve all its wonderful effects. Studies showed that to produce healthful effects, only 3 to 4 grams daily were required. Since that time, LEF has continued to promote CLA and provide its members with the latest breaking evidence of CLA's health-creating benefits.

In an article published in the April 1999 edition of the Life Extension magazine, it was pointed out that CLA improves insulin sensitivity, proving it to be a possible preventative and treatment for adult-onset diabetes. By virtue of this same mechanism, CLA also becomes an effective anti-atherogenic agent. According to the article, other studies found that CLA at 0.5 grams per day in rabbits lead to significantly lower levels of total and LDL cholesterol, as well as a lower total cholesterol to HDL (the good cholesterol) ratio. There was also a lowered incidence of atherosclerosis. In another study, CLA's ability to reduce body fat while maintaining lean muscle mass was further documented. Mice fed only 1% of CLA of the dry weight of their diet achieved a 60% reduction in body fat and a 14% increase of lean body mass. Another study conducted at Louisiana State University showed up to a 88% reduction in the body fat of male mice fed a 1% CLA diet-and after only six weeks!

In a study published in *Anticancer Research* (1998 May-Jun; 18 (3A): 1429-34) and reported on in the October 1999 issue of Life Extension magazine, it was shown that CLA is also able to inhibit the growth of prostate cancer. CLA, as the article went on to say, can be considered a powerful prostate cancer preventative, as well as partial treatment. CLA also helps prevent other cancers like breast cancer. It has even been suggested that young girls in the formative period of mammary gland development might benefit from prophylactic use of CLA to increase life-long protection from carcinogen-induced breast cancer. The suggested amount required to obtain the overall cancer-preventing effects is only three 1000 mg ( 70%) CLA capsules daily for most people. All of this research can be found on The Foundation's Web Site at [www.lef.org](http://www.lef.org).

In July of this year a particularly significant study entitled "Dietary Conjugated Linoleic Acids Increase Lean Tissue and Decrease Fat Deposition in Growing Pigs" was published in the November 1999 issue of the *Journal of Nutrition*. The key element of the study was the confirmation that CLA is able to decrease fat storage and maintain lean muscle tissue. In this latest study researchers used young female pigs, which normally have a lot of fat tissue, to illustrate the effects of combining a relatively small amount of CLA with the pig's normal diet. Pigs have organs and metabolisms similar to humans, so they are a very good experimental model for human nutrition. Sixty pigs were randomly placed in one of six dietary treatments, one being the control group that received no CLA. Each other group received one of five different concentrations of CLA added to the animal's feed . The pigs had free access to water and their diet at all times (two kilograms of food per day, which was totally consumed). After just four weeks of CLA supplementation there was significantly less fat and more lean tissue in the groups receiving the CLA.. After eight weeks the pigs with the highest CLA supplementation showed a 31% loss of body fat and a 5% increase in lean tissue. In addition, at the highest level of CLA supplementation, the back fat depth was reduced by 25%. This study was the first to show the profound effects of CLA supplements on the composition and deposition of body fat, in relation to protein, water, and other tissues of pigs.

The amount of CLA used in the study was 0.7 -5.5 grams of CLA per kilogram of food. In the past, LEF has recommended 2.1 grams CLA per kilogram of food (see Life Extension magazine, October 1999, p. 50). This was based on an average human diet of 1



kilogram (or 2.2 pounds) of food daily. LEF's recommendation was within the amounts used to achieve the fat-reducing results in the pigs, though some people may want to take up to 6000 mg a day of CLA to achieve greater fat loss.

The researchers were unable to discover the actual mechanism responsible for CLA's ability to reduce body fat to such a degree, but point out that the effects could involve "de novo lipogenesis, use of preformed fatty acids for lipid synthesis, rates of lipolysis or some combination of these." They go on to say that..."A possible explanation is that dietary CLA supplementation may result in an increase in metabolic rate...."

CLA is a unique supplement. Not only does it guard against serious diseases and health conditions, but it is also an effective tool for one of the most serious conditions affecting Americans-obesity. As more and more Americans join the ranks of the overweight, millions more start diets that are usually destined to failure. Why do most diets fail? Because when less calories are consumed, there is usually a significant loss of muscle as well as fat, due to the fact that the body starts to burn, or catabolize, muscle for energy. This can lead to even more serious health consequences (your heart, for example, is a muscle). Not to mention that without lean muscle mass, which burns calories while fat tissue does not, the body's metabolism plummets with every ounce of muscle digested-therefore requiring the dieter to eat less and less to maintain weight loss. Conversely, a higher level of lean muscle tissue means that the body's metabolism is increased (more calories are burned) because muscle is active tissue. Fat is inactive tissue, which may in part explain the earlier researchers' hypothesis that CLA increases the body's metabolism. It also explains why weight lifting with dieting always helps, because the dieter will keep or increase more muscle. The achievement of a higher metabolism translates into the dieter being able to eat more and still lose the fat.

It is this "anti-catabolic," or muscle-sparing, effect of CLA coupled with its fat-reducing abilities that reveal why CLA is so remarkable and a must for anyone pursuing health and long life.

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