

DIET

Breakthrough

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MUSCULAR

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CHITOSAN:

Designer
Fat Blocker



Recent studies have confirmed that an animal fiber called chitosan has proven to work significantly better in barring fat absorption than the plant varieties. Is it the miracle fat-loss pill? Read on....

THERE ARE UNTOLD BILLIONS out there for whomever comes up with a pill that will either instantly cure baldness or melt fat from the body in spite of your car veering to the right each time you approach a Ben and Jerry's Baldness and fatness seem to be the most loathsome conditions in which one might find one-self, and those afflicted with either (usually it's both) seem to want to do the least to correct it. The scientific community does realize this and is doing its best to find a convenient remedy -- not to mention capitalize on the discovery. And believe me, they are working furiously.

Eventually, pills to cure these physical detractions may turn up. We'd sure like to believe they will anyway; imagine showing up at your twenty-year high school reunion with a pony tail down the middle of your back and three percent body fat! Whether we admit it or not, the magic pill is of certain interest to all of us. So much so that when the **National Enquirer** headlines even the sleaziest snake oil, we will at least read it. Perhaps even ponder the possibility that the stuff might work. If a celebrity is endorsing it in an advertisement, chances are even better the ads have some truth to them, and if the celebrity's doctor says it worked wonders on his famous client, then it must be a sure thing.

But, deep down we know there is no such thing. There are however various therapies that can help you regrow a few hairs as well as assist in the fat-loss process. We've reported on several fat-loss supplements in prior issues.

Natural fibers from plants, such as guar gum, locust bean gum, bran, siliium, and some pectins have been found to aid in the war against fat by blocking the absorption of fat from the intestine. The fats and bile acids bind to the fiber in the digestive tract making the fat unable to fit through cell membranes and make it into the blood stream. This concept seems plausible and several research studies have proven that fiber does seem to work, somewhat; let's just say there's room for improvement.

Recent studies have confirmed that an animal fiber called *chitosan*, has proven to work significantly better in barring fat absorption than the plant varieties.

Chitosan is an alkalized form of chitin -- a cellulose-like polymer present in fungal cell walls as well as the shells of certain exoskeletal arthropods such as insects, crabs, shrimp, lobsters, etc. Unlike plant fibers, chitosan contains an amino group which is believed to make it more effective in attracting fat cells to hook up with.

Naturally, chitosan has been available in supplements exclusively sold in Europe and Japan for years, and the company that brought the stuff over has a patent on chitosan as well as the words "bind" and "block." So let's just say that chitosan does what some fibers have been known to do -- link to dietary fat and bar its absorption into the blood stream from the small intestines -- only it does it better. Much better -- something like 55% better, according to the research.

By inhibiting fat absorption, chitosan also has a cholesterol-lowering effect. In a recent study, researchers found that rats fed an extremely high-cholesterol diet supplemented with chitosan resulted in a significant reduction of plasma cholesterol without influencing either food intake or growth. Concentrations of liver cholesterol and triglycerides were also decreased significantly. Of particular importance was the long-term effect of a diet containing little cholesterol supplemented with very little chitosan. The result was the occurrence of more cholesterol, as high density lipo proteins (good cholesterol), and less as low density lipo proteins (bad cholesterol).

Chitin and chitosan have also been found to aid in the healing process. Wounds treated directly with a solution of chitosan showed an inhibition of fibroblasts (the stuff scars are made out of) allowing for normal tissue regeneration. Incision wounds treated with chitosan showed little to no scarring in recent medical tests.

Chitosan also possesses an interesting coagulative property. Experiments with chitosan in surgical procedures that require the connection of major blood vessels showed that arterial grafts treated with a chitosan solution showed more effective connection with less leakage than traditional grafting methods. This was particularly noteworthy in high-pressure applications such as the aorta, where a leak-proof seal is a must.

Recent studies also reported that chitosan was able to exhibit an immunopotentiating action. A series of experiments concluded that chitosan-

treated mice showed a reduction in blood-borne macrophages. Tumor growth was also impaired. These results show some benefit in using chitosan to develop certain immunotherapies -- however the FDA has not yet approved chitosan for these treatments.

All in all, chitin and chitosan are quite remarkable and research into their medical applications continues. The bodybuilding community couldn't care less about its coagulative properties. Or as an immunopotentiating substance -- though we are all well aware of the importance of fighting off microphags,] free radicals, tumors and other viral invaders. Hopefully you've been taking your antioxidants regularly, the addition of chitosan could make little difference in that regard. Just extrapolating the information from the research papers and writing those couple of paragraphs almost put me to sleep.

But, talk about halting fat absorption and I'm wide awake!

If chitosan is as effective as the research indicates, and credible supplement companies start offering it, you can bet the bodybuilding and fitness communities will gobble it up.