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Called "the most beneficial nutrient introduced in the past 20 years"…

IPRIFLAVONE or Ostivone™

Ipriflavone is a nutrient proven to increase bone mineral density. Ipriflavone is classified in a category of compounds called flavonoids. Although ipriflavone is less well known in the United States, it has been available in Europe and Japan for many years.

Ipriflavone is readily absorbed in the small intestine in humans, and absorption is greatly enhanced when it is taken with food.

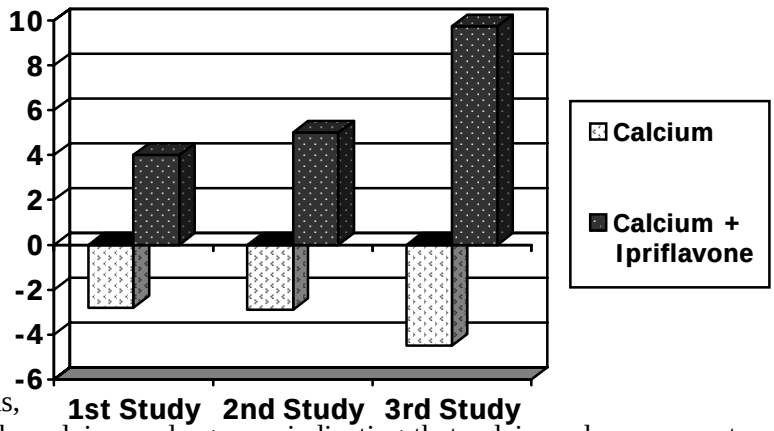
Ipriflavone has a long history of research supporting its beneficial effects for bone health. It has been evaluated in animal studies since 1974 and in human studies since 1981. Studies conducted in animals and humans, called *in vivo* studies, and studies conducted in cultured cells, called *in vitro* studies, indicate that ipriflavone works in several ways to promote bone health. Ipriflavone acts on bone health by:

- Enhancing the action of calcium
- Inhibiting bone resorption
- Promoting bone formation
- Improving bone strength

ENHANCES CALCIUM ACTION

Recent Italian trials in 90 women ages 53-65 years, showed that Ipriflavone plus 1 gram of calcium/day significantly increased bone mineral density (BMD) by 2% after 6 months and 5.8% after 12 months. The researchers also found that the subjects reported a significant decrease in spontaneous pain—by 45% at 6 months and 62% at 12 months.

One year of ipriflavone supplementation was evaluated in a double blind, placebo-controlled clinical trial with 91 women by the Hungarian researcher Kovacs. Kovacs compared the effects of one gram per day of supplemental calcium to the same amount of calcium plus ipriflavone. After 6 months, BMD had decreased in the calcium-only group but had increased in the calcium plus ipriflavone group. After 12 months, BMD had decreased significantly in the calcium-only group, indicating that calcium alone was not sufficient to maintain bone health in these women.



INHIBITS BONE RESORPTION

One of the ways that ipriflavone may promote bone health is by slowing the activity of bone cells called *osteoclasts*. Osteoclasts are responsible for bone breakdown. They act by forming pits in the bone matrix, which

exposes more of the bone surface area and allows them to break down bone more effectively. Japanese researchers used isolated bone cells to measure the effects of ipriflavone on pit formation and on the number of active osteoclasts in the bone cell culture. They found that ipriflavone inhibited pit formation when it was added to the cells in concentrations similar to those reported in human plasma—indicating that ipriflavone slowed down the activity of the osteoclast cells. When they measured the total number of active osteoclasts, they found that ipriflavone had decreased the total number of mature osteoclasts, partially by decreasing their formation. As a result, there were fewer osteoclasts present to break down the bone.

Other researchers have found similar effects of ipriflavone on bone resorption. Using a different experimental model, Morita *et. al.* also found that ipriflavone inhibited formation of osteoclasts—thus supporting the findings of Notoya and co-workers.

PROMOTES BONE FORMATION

Ipriflavone has been shown in animals and in animal and human cells to promote bone formation in three ways: by stimulating the activity of osteoblasts, the cells responsible for building bone; by promoting the deposition of bone matrix; and by facilitating the incorporation of minerals into that matrix

The researchers concluded that ipriflavone and its metabolites regulate the development of human bone-forming cells by enhancing the manufacture of important matrix proteins and encouraging minerals to be deposited into the bone matrix.

IMPROVES BONE STRENGTH

The foregoing results suggest that ipriflavone promotes bone health by protecting against bone loss in women, inhibiting bone breakdown, and stimulating bone formation. However, a key component of enhanced bone health is not only to protect against bone loss but also to ensure bone strength. Ipriflavone improves bone strength by increasing resistance to breaking, improving ability of the bone to withstand both dynamic and impact stress and improving bone mineral density, which is correlated with bone strength.

IPRIFLAVONE PROMOTES HEALTH BONE MINERAL DENSITY

Support: (structure/function claim) At least thirteen published double blind, placebo-controlled studies have been conducted to assess the effects of ipriflavone on bone mineral density in postmenopausal women. Study duration ranged from 12 months to 24 months. Without exception, all studies reported significantly greater bone mineral density with ipriflavone than for placebo control groups consuming 1 gram of calcium per day.

CONSUMER CAUTION!

Whenever a "new" nutrient is introduced on the market—particularly one with numerous benefits and extensive research-backing—"knock-off" companies play the game of copy-cat, immediately coming out with formulations to take advantage of the market interest created by a legitimate, health-promoting ingredient. Unfortunately, ipriflavone will be produced by other companies and will be included in many new formulations. In evaluating the many options that will soon hit the market, remember that the form of ipriflavone with the trademark, Ostivone™, is the form that was proven to be both safe and effective by the extensive research cited above.

OsteoPlus™ from Optimal Health Systems, contains Ostivone™, the proven form of ipriflavone, along with the world's only patented form of calcium, amino acid chelated calcium. **There is no better product for bone health than OsteoPlus.** To learn more about OsteoPlus, and the other research-backed products from **Optimal Health Systems, call Dr D at 614-529-8171.**

Statements in this article have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.