

Ester C® Has Four Times the Bioavailability of Regular Vitamin C

Unique, Patented Form of Vitamin C Is Gentler and More Effective

In comparison to other forms of vitamin C, studies indicate that Ester C:

- Increases tissue (white blood cell) levels four times more than ascorbic acid.⁽⁵⁾
- Is absorbed into the bloodstream in higher quantities than ascorbic acid.⁽²⁾
- Is absorbed into the bloodstream twice as fast as standard U.S.P. calcium ascorbate or ascorbic acid alone.⁽²⁻⁴⁾
- Circulates in the bloodstream twice as long as ascorbic acid.^(1,5)
- Is excreted into urine at a much lower rate.⁽¹⁻⁵⁾
- Reduces gastrointestinal discomfort due to its neutral pH of 7.0, the same as distilled water.^(1,6)

ESTER C® CAPS		
Hypoallergenic - 550 mg.		
Product No. 440	Fill Size: 90 Capsules	
Each capsule contains:	% Daily Value	
Vitamin C		
(as calcium polyascorbate)	500 mg.	833%
Calcium (as calcium polyascorbate) . .	50 mg.	5%
Other Ingredients: rice flour, gelatin.		
®Ester C is a registered trademark of Inter-Cal Corp.		
Recommended Use: One capsule daily to maintain optimum tissue levels of vitamin C.		
Therapeutic Dosage: Two to five capsules daily.		

- Produces much less oxalic acid in urine, minimizing possible risk of kidney stones.^(1,5,6)

This new form of vitamin C is so unique that it has been patented.

Absorbs Faster, Circulates Longer...with No Gastric Upset

Human tests conducted by Jonathan V. Wright, M.D. at Meridian Valley Clinical Laboratory showed that Ester C increased white blood cell ascorbate levels four times more than ascorbic acid with only one third as much being lost in the urine.⁽⁵⁾

In animal studies, it took 208 minutes for the Ester C to be detected in the urine compared to 104 minutes for ascorbic acid. This essential nutrient was circulating longer, even though Ester C entered the bloodstream twice as fast and put more vitamin C into the blood. Similar results were obtained when Ester C was compared to standard calcium ascorbate.⁽²⁻⁴⁾

Since Ester C is absorbed more readily and excreted less rapidly and it increases white blood cell ascorbate levels four times more than ascorbic acid,⁽¹⁻⁷⁾ the 500 mg. of vitamin C in Ester C Caps is equal to 2000 mg. in vitamin C activity.

Ester C is a polyascorbate—a complex mixture containing many forms of vitamin C. It contains vitamin C (ascorbic acid) chelated, or tightly bonded, with calcium making the mineral part of its structure. About 80% by weight is ascorbate and dehydroascorbate — the form vitamin C must assume in order to be absorbed.⁽¹⁾ The patented neutralizing process yields a new form of calcium ascorbate that has “less ionic character, is more lipid soluble and passes the mucosal barriers more

rapidly.”⁽²⁾ The thorough bonding of these large molecules also makes them more readily absorbed and less likely to be quickly filtered out of the plasma by the kidneys.⁽⁶⁾

Metabolites Are the Key to Increased Power of Ester C

During the exclusive water based processing, some of the vitamin C undergoes structural changes which produce metabolites of Vitamin C called aldonic acids. These changes are similar to those that take place within the body. These “body ready” metabolites naturally occurring in Ester C provide its dynamic properties.⁽¹⁾

Research at the University of Mississippi showed that when vitamin C metabolites were added to calcium ascorbate in excess of the amount found in Ester C, its absorption rose dramatically to equal that of Ester C.^(1,3)

High Vitamin C Activity without Acid Rejection and Gastric Upset

A variety of vitamin C preparations are available including ascorbic acid and the mineral ascorbates. Ascorbic acid is obviously acidic. When it reaches the alkaline environment of the lower intestinal tract, it can cause inflammation of the intestinal tissue, gas, diarrhea and discomfort.

(over)

This acid rejection syndrome usually results from very large doses of vitamin C and can limit its absorption.⁽⁶⁾

Buffering vitamin C with a mineral to produce an ascorbate moderates acid rejection, but uncomfortable symptoms can still result from large doses of an ascorbate. When an ascorbate reacts with the acid of the stomach, carbon dioxide or gas is often the result, especially when some of the ascorbic acid has not successfully combined with the minerals.^(6,7)

How Much Is Enough? Daily Value May Be Shockingly Low

Humans are one of the few animals that can not produce vitamin C within the body. Comparing the relative quantities of vitamin C synthesized by certain mammals with recommended human consumption levels indicates that the %Daily Value of 60 mg. might be shockingly low.⁽⁶⁾

The level of ascorbic acid manufactured by most mammals varies considerably with their stress levels. As sickness or stress increases, mammals manufacture much more vitamin C. Unstressed goats, for example, manufacture 32.6 mg. per kilogram of body weight per day (mg/kg/day). This amount can increase to as much as 190 mg/kg/day, a six fold increase, when goats are stressed. For humans of average weight, the RDA for vitamin C converts to only 0.9 mg/kg/day.⁽⁶⁾

Vitamin C facilitates many of the body's metabolic processes as a nutritional cofactor. More than 300 enzymatic processes are dependent on this vitamin. Though there is still controversy over the extent and nature of its therapeutic uses, most people agree that vitamin C has a wide variety of roles in human health.⁽⁶⁾

Vitamin C seems to have the capacity to protect us against coronary heart disease, arthritis and other inflammatory disorders, iron deficiency, allergies, adrenal insufficiency, infections, radiation, air pollution and even aging.⁽¹⁾

Because vitamin C is involved in more than the prevention of a deficiency disease, many researchers now recognize that the mere absence of scurvy is not equivalent to optimal vitamin C nutritional status. Prevention of cancer, hypercholesterolemia, periodontal disease, colds and influenza may depend upon daily intakes of vitamin C far above those required to prevent scurvy.⁽⁶⁾

Nobel Laureate Linus Pauling first suggested that moderate doses of vitamin C, 250 to 1000 mg., halt

Neutralized Ester C, however, is pH balanced and fully reacted with its mineral. The macromolecules which result from the neutralization process do not react with or irritate the intestinal tract and produce gas.⁽⁶⁾

Although largely unfounded, high doses of vitamin C have been linked by some to increased oxalate excretion and formation of kidney stones. In human tests, those taking supplements of Ester C excreted 500% less oxalate in the urine than the ascorbic acid group.^(5,6)

the spread of viral and bacterial infections, and that large doses, one gram and more, kill those infections. He has since revised his dosage recommendations to one to three grams for prevention and eight to ten grams for cure.⁽⁶⁾

Periods of stress such as anxiety, infection, injury, surgery, burns or fatigue increase the body's need for vitamin C. Conditions that elevate serum copper also increase the need for vitamin C including schizophrenia, smoking, contraceptive pills, menstruation and the last months of pregnancy. Alcoholics have very low vitamin C levels because so much of the vitamin is used to destroy the toxic effects.⁽⁸⁾

WARNING: This information is provided for health care professionals only. **This publication and the product contained herein have not been approved or evaluated by the Food and Drug Administration. This publication, and the product contained herein are not intended to diagnose, treat, cure or prevent any disease.** The product relates to nutritional support only.

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