

## High bioavailability antioxidant formula of Ester-C® and herbal extracts

- Potent antioxidant
- Reduces severity of rhinovirus upper respiratory infection
- Helps to reduce allergic responses

Ester-C® Premium is a unique combination of Ester-C® calcium ascorbate, two well-known herbal antioxidants: green tea (*Camilla sinensis*) extract and grape seed (*Vitis vinifera L.*) extract and Bioperine® (a natural bioavailability enhancer).

### Ester-C®

In addition to its high degree of absorption and retention, Ester-C® calcium ascorbate may also prevent infection and ameliorate symptoms associated with the common

cold. In one study, 168 volunteers agreed to take 1 gram of Ester-C® or placebo daily during the winter months of November, December, and January. Compared to placebo, those employing the Ester-C® had significantly fewer colds (37 vs 50,  $p < 0.05$ ) and experienced a shorter duration of severe symptoms (1.8 vs 3.1 days,  $p < 0.03$ ) when they were infected.<sup>1</sup> (Note: refer to monograph on Ester-C for additional details on vitamin C and Ester-C®.)

### Green Tea

Green tea (*Camellia sinensis*) is a rich source of flavonoids known as polyphenols. The most significant flavonoid is known as epigallocatechin gallate (EGCG). Green tea polyphenols are potent antioxidants.<sup>2</sup> Green tea also enhances the liver's enzyme detoxification system. This important mechanism rids the body of free radicals and other foreign chemicals that cause cell damage.

In vitro experiments show that green tea polyphenols inhibit cancer by blocking the formation of cancer-causing compounds such as nitrosamines, suppressing the activation of carcinogens, suppressing the activation of carcinogens and detoxifying or trapping cancer-causing agents.<sup>3,4</sup> Several recent studies suggest that green tea polyphenols may promote health and reduce disease occurrence, and possibly protect against Parkinson's disease and other neurodegenerative diseases.<sup>5,6</sup>

### Grape Seed Extract

The grape seed extract used in Ester-C® Premium is standardized to contain 12% catechins. Catechins are flavonoid phytochemical compounds that have a wide range of protective effects, including cardioprotective, chemoprotective, and antimicrobial properties. Grape seed extract is a rich source of bioflavonoids high in *Oligomeric Proanthocyanidins*. The specific

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**120 capsules**

### Each vegetarian capsule contains:

| Constituents  | Dosage  |
|---|---------|
| Ester C calcium ascorbate . . . . .                       | .600 mg |
| Green tea ( <i>Camilla sinensis</i> ) extract . . . . .   | .50 mg  |
| Grape seed ( <i>Vitis vinifera L.</i> ) extract . . . . . | .15 mg  |
| Bioperine® (black pepper) extract . . . . .               | 3 mg    |

Other ingredients: vegetarian capsule (cellulose, water), magnesium stearate, silicon dioxide

Adult dosage: Take 1 capsule a day or as directed by a practitioner.

Side effects: May cause diarrhea.

### Contraindications:

Do not take during pregnancy or lactation. Do not use in individuals with known or suspected sensitivity to any of the above listed ingredients. May cause false positives for glucose in the urine. Do not take with the prescription drugs fluphenazine or warfarin. Those diagnosed with iron storage diseases such as hemochromatosis or hemosiderosis should not employ supplementary vitamin C.

# Ester-C® Premium

type of proanthocyanidins that are found in grape seeds are called "leucoanthocyanins", which are a powerful antioxidant that provides better protection against free radicals than other antioxidants such as vitamins C and E.<sup>7</sup>

Leucoanthocyanins and catechins from grape seeds can reduce the damage done by free radicals, strengthen and repair connective tissue, promote enzyme activity and help to moderate allergic and inflammatory responses by reducing histamine production.

Leucoanthocyanins have been shown to have an antimutagenic effect. This means they can help to prevent diseases such as cancer, by stopping cell structures from changing

(mutating) due to toxins in the environment. Whereas, other studies have shown that grape seed proanthocyanidins can protect multiple target organs from structurally diverse drug- and chemical-induced toxicity.<sup>8</sup>

## Bioperine®

Bioperine®'s addition to Ester-C® Premium increase the bioavailability of the micronutrients in Ester-C and the two herbal extracts. Bioperine® is a standardized extract from the fruits of black pepper, which studies have shown enhances the bioavailability of other compounds, by improving absorption by the intestine, promoting better retention in cells, and preventing metabolized in the liver - thereby increasing overall effectiveness.

## REFERENCES:

1. Van Straten M, Josling P. Preventing the common cold with a vitamin C supplement: a double-blind, placebo-controlled survey. *Adv Ther.* 2002;19:151-9
2. Serafini M, Ghiselli A, Ferro-Luzzi A., In vivo antioxidant effect of green and black tea in man., *Eur J Clin Nutr.* 1996 Jan;50(1):28-32.
3. Brown MD., Green tea (*Camellia sinensis*) extract and its possible role in the prevention of cancer., *Altern Med Rev.* 1999 Oct;4(5):360-70.
4. Lambert JD, Yang CS., Cancer chemopreventive activity and bioavailability of tea and tea polyphenols., *Mutat Res.* 2003 Feb-Mar;523-524:201-8
5. Pan T, Jankovic J, Le W., Potential therapeutic properties of green tea polyphenols in Parkinson's disease., *Drugs Aging.* 2003;20(10):711-21
6. Nie G, Cao Y, Zhao B., Protective effects of green tea polyphenols and their major component,(-)-epigallocatechin-3-gallate (EGCG), on 6-hydroxydopamine-induced apoptosis in PC12 cells., *Redox Rep.* 2002;7(3):171-7.
7. Bagchi D, Garg A, Krohn RL, Bagchi M, Tran MX, Stohs SJ., Oxygen free radical scavenging abilities of vitamins C and E, and a grape seed proanthocyanidin extract in vitro., *Res Commun Mol Pathol Pharmacol.* 1997 Feb;95(2):179-89.
8. Bagchi D, Bagchi M, Stohs S, Ray SD, Sen CK, Preuss HG., Cellular protection with proanthocyanidins derived from grape seeds., *Ann N Y Acad Sci.* 2002 May;957:260-70