

Ecklonia Cava: A Multi Beneficial Seaweed

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Introduction

Ecklonia cava is an edible brown alga that grows in warm coastal waters of the Pacific Ocean. *Ecklonia cava* grows atop rocks in large underwater forests along shallow coastlines in the Pacific. In certain regions of Asia where seaweed and algae are a part of the diet, this brown alga may be eaten whole in soups and salads. In the West, *Ecklonia cava* is more common as a supplement in pill or powder form. Much like other algae and seaweeds, *Ecklonia cava* has long been used as a traditional folk remedy in China, Japan, and Korea. In Japan, it's more commonly known as "kajima". *Ecklonia cava* is rich in vitamins, minerals, protein, fiber, and other beneficial plant chemicals. Though it has long been used as an herbal remedy for breastfeeding mothers and treatment for various health conditions, it has only recently become more popular outside of Asia. In traditional medicine, it's used to treat goiters, hemorrhoids, urinary diseases, constipation, and stomach ailments. Because it provides iodine, calcium, and other nutrients, it has also served historically as a supplement for breastfeeding women. Therefore, *Ecklonia cava* is defined as nutrient rich marine alga found in the shallow waters of the Pacific Ocean and used in traditional medicine by traditional people.

Benefits and uses

While *Ecklonia cava* is rich in nutrients, not all of its traditional uses are proven. Furthermore, scientific studies are still preliminary. As much of the available research was conducted in test tubes and animals, the findings may not apply to humans. Here are some of this alga's potential benefits that are best supported by research.

Packed with powerful plant compounds

Ecklonia cava contains numerous plant compounds, such as phlorotannins — which are believed to possess antioxidant, anticancer, antidiabetes, and antiallergic properties. One test-tube study showed that three of its phlorotannins, including one called PPB (pyrogallol-phloroglucinol-6,6'-bieckol), have particularly high antioxidant properties. Test-tube research

also reveals that PPB inhibits DNA damage and has higher antioxidant activity than vitamin C. All the same, further studies are needed.

May improve circulation

Some studies indicate that *Ecklonia cava* boosts circulation. In a 4-week study in mice with obesity and high blood pressure, PPB supplements significantly improved blood circulation, blood pressure, and certain blood fat levels like cholesterol. Furthermore, a test-tube study determined that PPB from *Ecklonia cava* may help alleviate artery and vein dysfunction resulting from long-term poor circulation.

May reduce inflammation

Research notes that PPB and other *Ecklonia cava* compounds may help reduce inflammation. In particular, PPB may inhibit nitric oxide and reduce the production of inflammatory cytokines — two signaling molecules that play a large role in inflammation. Moreover, another test-tube study suggests similar effects for another compound in *Ecklonia cava* called 8,8'-bieckol. Chronic inflammation is one of the main causes of numerous illnesses, such as asthma, arthritis, certain cancers, type 2 diabetes, and heart disease. Thus, lowering inflammation may also lower your risk of illnesses.

May fight obesity and other chronic diseases

Ecklonia cava has been widely researched for its effects on obesity and other chronic conditions. A study in mice with obesity determined that its extract decreased stress and inflammation, as well as modulated the function of brown fat cells. Brown fat is a type of fat tissue that your body stores in small amounts around the neck, back, and various organs. In recent years, scientists have proposed that brown fat may help treat conditions like obesity and type 2 diabetes. This research suggests that *Ecklonia cava* may help combat some of the effects of a high fat diet, many of which contribute to heart disease over time. Another study in mice found that the PPB in this alga may inhibit RAGE ligands — a group of receptors known to increase abdominal fat cells and inflammation. More studies in mice with obesity have noted that both PPB and *Ecklonia cava* decrease brain inflammation, food intake, weight gain, and fat accumulation. Although these results are promising, human studies are needed.

May have anticancer effects

Multiple test-tube and mouse studies suggest that *Ecklonia cava* and some of its isolated compounds have anticancer properties. Its phlorotannin known as dieckol may suppress the spread of breast cancer cells and regulate the expression of genes related to the

formation of secondary cancer growths. Test-tube studies on human lung cancer cells suggest similar results regarding secondary cancer growths. Dieckol may also suppress the growth of ovarian cancer cells by regulating some of the protein pathways involved in cell death.

In addition, a study found that a carbohydrate isolated from *Ecklonia cava* inhibited the growth of CT-26 cells, which are linked to colon cancer. Keep in mind that this alga should not be considered a cancer treatment, and that human research is lacking.

May reduce your risk of heart disease

A handful of human studies indicate that *Ecklonia cava* may lower your risk of heart disease. A 12-week study gave overweight Korean adults either 72 or 144 mg of *Ecklonia cava* extract daily. Both groups had significant decreases in body mass index (BMI), waist circumference, and LDL (bad) and total cholesterol, compared with a control group. In another 12-week study, 80 adults with prediabetes who took 1,500 mg of dieckol extract from *Ecklonia cava* daily experienced significant decreases in post-meal blood sugar levels, compared with a control group. Abnormal blood sugar levels, high BMI, and elevated blood fats are all risk factors for heart disease. *Ecklonia cava* may improve circulation, reduce inflammation, and protect against obesity and heart disease- though most of the research was conducted in animals or test tubes. Thus, further human studies are needed.

Safety and dosage information

Ecklonia cava supplements are widely considered safe. One 12-week human study suggests that doses up to 144 mg each day are safe and have no side effects. Animal studies support these findings. Nonetheless, due to a lack of safety studies, pregnant women may wish to avoid *Ecklonia cava*. Although this alga has traditionally been used as a postpartum supplement, breastfeeding women should consult their healthcare provider before taking it.

Proper dosage

Ecklonia cava products are typically sold in pill form but may also be powdered. Other names for this supplement include Alginol and Seanol. While no official dosage recommendations exist, you shouldn't exceed the dosage listed on the packaging. Most commercial supplements provide 50–400 mg of *Ecklonia cava* extract per serving.

It's also advisable to check with your healthcare provider before adding this supplement to your routine. Thus, *Ecklonia cava* has no known adverse effects, though you shouldn't exceed the dosage listed on each product. Pregnant women may wish to avoid it, and breastfeeding women should first consult their healthcare provider.

