



## \*The Science of Whole Fruit Mangosteen *The Surging Antioxidant*

Long revered in Southeast Asia for its taste and nutritional properties, the mangosteen (*Garcinia mangostana*) now attracts attention from modern scientists intrigued by what people have known for years about the health benefits of the whole mangosteen fruit.

Historically, the whole fruit was ingested or used topically to treat far-ranging and diverse conditions. Today, ongoing research continues to find health benefits associated with the mangosteen's phytonutrients (natural plant compounds) that may function as **antioxidants**, which fight cell damage caused by free radicals, and have anti-inflammation properties as well.

Science is continuing to explore the relationship between **inflammation** and unhealthy conditions within the body. A recent, randomized, double-blind, placebo-controlled human clinical study demonstrated XANGO® Juice's ability to reduce C-Reactive Protein, the marker for inflammation, in an overweight population.

Other emerging scientific research shows a significant complementary effect when XANGO Juice and Eleviv™ are taken in conjunction.

The mangosteen's healthful properties stem from a unique composition, including xanthenes and flavonoids.

### **Xanthenes:**

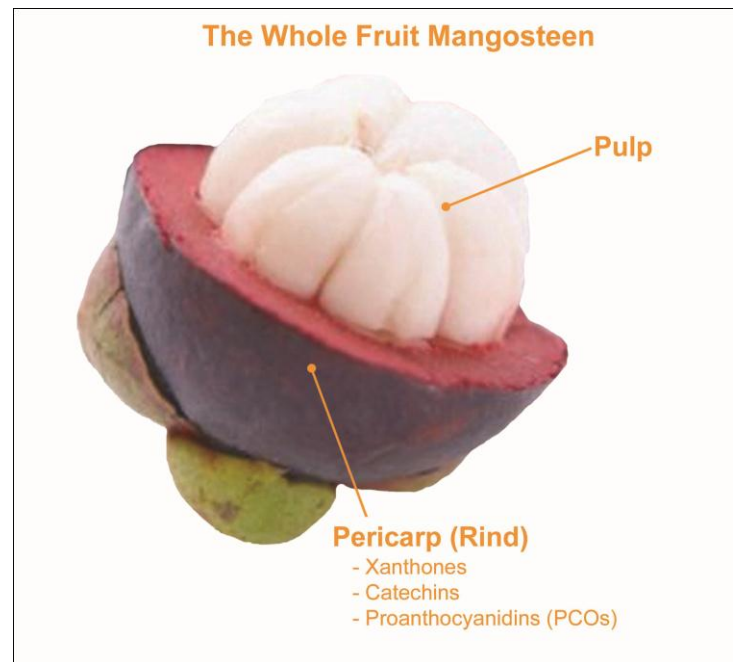
The whole mangosteen fruit delivers 39 different xanthenes. Xanthenes are biologically active plant phenols with powerful antioxidant compounds, more potent than vitamins C and E. Research shows xanthenes possess properties that may:

- sustain a healthy cardiovascular system.\*
- support cartilage and joint function.\*
- support the immune system.\*
- promote a healthy seasonal respiratory system.\*
- maintain intestinal health.\*
- neutralize free radicals.\*

### **Flavonoids:**

More flavonoids – catechins and proanthocyanidins (PCOs) – are found in the whole mangosteen fruit than in dark chocolate, grapes and blueberries.

Catechins belong to the flavan-3-ol class of flavonoids – a part of the bioflavonoid family. The catechins found in green tea are slightly more abundant in the whole mangosteen fruit, and the health benefits of catechins have been studied extensively in humans and in animal models. Science shows catechins may help maintain cartilage, cardiovascular health and respiratory systems.\*





PCOs are another significant source of antioxidants. The protection from free radicals that PCOs offer helps to increase efficiency of the circulatory system and play a key role in maintaining intestinal health and cell integrity.\* PCOs also may help support the immune system and promote a healthy seasonal respiratory system.\*

### **XANGO's Whole Fruit Approach:**

Many fruits claim high levels of antioxidants and other healthy properties. What sets the mangosteen apart is its pericarp (or rind), which is the most nutrient-dense portion of the fruit and contains nature's most concentrated source of xanthenes and a large concentration of flavonoids. Research shows that consuming mangosteen fruit in its whole fruit form – pulp and rind – as found in the proprietary formula of XANGO® Juice, enables the body's absorption of its numerous phytonutrients, allowing for optimization of its antioxidant properties.

### **Mangosteen Research:**

With scientific partners that include Northridge, Calif.-based Medicus Research, Montreal-based Charles River Laboratories and Ogden, Utah-based Weber State University, XANGO, LLC is spearheading the scientific exploration of the whole mangosteen fruit through a tiered approach based on **safety, standardization and efficacy**. In a study published in the June 2007 issue of the *Journal of Separation Science* and in accordance with Association of Analytical Communities (AOAC) protocol, researchers established a standard scientific method for testing and measuring the nutrient-dense xanthenes found in the mangosteen. **XANGO also released preliminary results from a separate bioavailability study of xanthenes and XANGO® Juice that indicated usage of the whole mangosteen fruit as a delivery vehicle leads to high xanthone absorption.** This pre-clinical trial showed that unnaturally elevated levels of xanthone consumption through means such as extracts (used by competing brands) were shown to result in decreased absorption efficiency.

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#### **Sample Research**

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