

# Purple Tea™ Overview

Extract derived from a new variety of *Camellia sinensis* for weight-loss, cholesterol, blood glucose control, and skin improvement

Purple tea extract is derived from a new crossbred variety of the common tea leaf, *Camellia sinensis*, from which black, white, and green teas are derived. It contains red and purple anthocyanins, which are related to similar anthocyanin compounds found in blueberries, raspberries, purple grapes, and other common foods that contribute to their characteristic colors and health benefits. This special variety of tea was developed in Africa at an elevation between 4,500 and 7,500 feet where cooler conditions prevail, allowing it to grow in an equatorial region where intense ultraviolet light bombardment causes the plant to produce high levels of protective anthocyanins and higher levels of polyphenols (16.5 %) than other teas, which average 10% (Figure 1), and help protect the leaves from damage.

The tea contains EGCG and other catechins like regular green tea but also contains a unique compound, 1,2-di-galloyl-4,6-hexahydroxydiphenoyl-D-glucose (GHG). Purple tea extract contains 50% polyphenols, almost 10% EGCG, 1.5% anthocyanins (blueberries have only about 0.1%), and 7.4% GHG (Figure 2). In addition, it contains only 4% to 5% caffeine, less than some green tea extracts.

Purple tea extract has been tested for different bioactive effects and may have several different health benefits. It has greater antioxidant activity than green tea and other teas, with its radical scavenging rate of 51% compared with 34.3% for green tea. Its superoxide dismutase antioxidant activity is 24%, twice as high as green tea's.

Other benefits of purple tea are anti-obesity actions, reduction of conditions that lead to metabolic syndrome, and anti-aging benefits to skin. The extract of purple tea has been shown in two small, open-label human clinical studies to support weight loss, decreases in body mass index, fat mass, hip size, waist size, and subcutaneous-fat thickness while improving body composition and lean body mass. One of the mechanisms of action is thought to be inhibition of lipase, the enzyme that breaks down fats for digestion and assimilation.

FIG. 1: CONTENT OF POLYPHENOLS IN DRY LEAVES

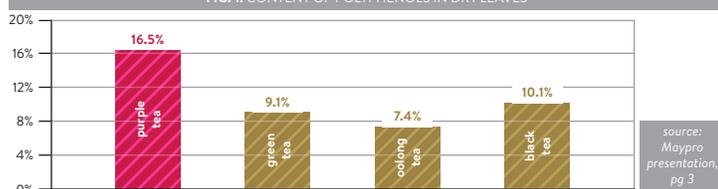
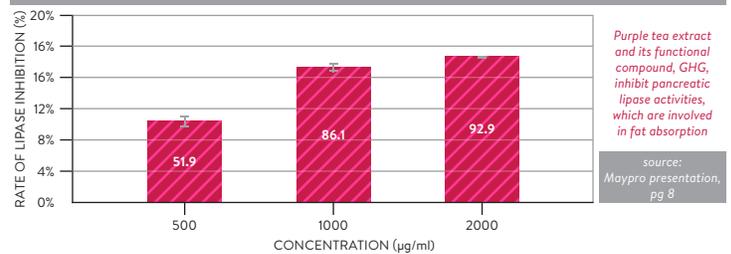
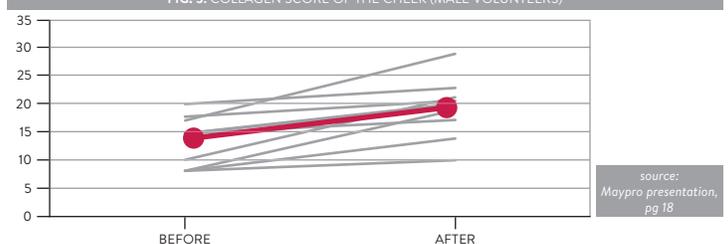


FIG. 2: ANTI-OBESITY PROPERTIES



In a four-week study of purple tea extract examining obesity and skin health in healthy volunteers, 11 male and 7 female test subjects ingested capsules containing lab-extracted purple tea extract that was equivalent to 100 mg of Purple Tea Extract-P. The body weight, body fat mass, waist and hip sizes, and the subcutaneous-fat thickness of the abdomen and upper arms were measured. Oil content of the skin on the forehead, moisture content of the cheeks, and collagen scores also were measured. After a four-week ingestion of purple tea extract, subcutaneous-fat thickness in the abdomen and upper arms of male subjects was significantly reduced compared with pre-ingestion measurements. In female subjects, body fat mass and hip size significantly decreased. Collagen scores of the cheeks of male test subjects showed a significant increase after the four-week ingestion period (Figure 3).

FIG. 3: COLLAGEN SCORE OF THE CHEEK (MALE VOLUNTEERS)



In a separate study conducted using the dried purple tea leaves instead of the extract, 1.5-g portions were given to male subjects as a hot brewed tea twice daily for four weeks (Oryza, 2014). After the ingestion period, BMI, body weight, body fat mass, abdominal fat, body fat ratio, muscle ratio, waist size, hip size, and abdominal and right upper arm fat thickness were significantly improved compared with pre-ingestion measurements, and there was a reduction of visceral fat, which can help reduce the risk of metabolic syndrome. In four weeks, body fat decreased by 0.8 kg or about 1.76 lbs., waist and hip size decreased by a little more than 1 inch. LDL cholesterol decreased by about 10 mg/dl and triglycerides by about 20 mg/dl.