

## GREEN TEA

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## THE HISTORY OF GREEN TEA

Camellia Sinesis, commonly known as green tea, is the oldest herbal tea known to humans. It was first brewed in China in 2737 BC. Today green tea is consumed around the world by millions of people who enjoy it for various health benefits. Accepted benefits include vitality, detoxification, mental focus, and weight management. Thousands of clinical studies have been conducted and published investigating the various health benefits of green tea.

Scientific research has shown that green tea contains a number of bioactive compounds. The major benefit of green tea stems from its rich supply of catechins, of which eight types are found in green tea. Catechins are regarded as the most powerful polyphenols providing the brain and body with strong antioxidant protection. Catechins were first isolated from green tea in 1929 by Michiyo Tsujimura, a Japanese agricultural scientist and biochemist. Her research focused on the components of the green tea and she was the first woman in Japan to receive a doctoral degree in agriculture.

ABOUT CELLG8® GREEN TEA  
CONSUMING GREEN TEA

The traditional and widely accepted method of consuming green tea is brewing the leaves and consuming it as a drink. However, there are limitations to this method when wanting to obtain the maximum health benefits of green tea or when green tea is used as a supportive aid during the treatment of an illness.



## 01.

## HIGH QUALITY

The quality and level of catechins found in green tea varies from plant to plant. Drinking a tea with very low levels of catechins will be of little benefit, therefore standardization is required.

## 02.

## HEAVY MATERIALS

Heavy metals have been found in a number of commercial brands grown near industrial areas. We need to question if the tea is free of agrochemicals and contaminants. This is especially important when a large quantity of tea is being consumed on a daily basis.

## 03.

## FREQUENCY &amp; VOLUME OF CONSUMPTION

For sufficient benefit multiple cups of tea per day need to be consumed on a consistent, day to day basis.

## 04.

## CAFFEINE

Those sensitive to caffeine and the stimulating effect of green tea may find it impossible to consume the required volume of green tea on an ongoing basis.

## 05.

## ABSORPTION

Absorption of catechins from the green tea may not be optimal, especially in those with compromised digestive systems and overall health.

## GREEN TEA SUPPLEMENTATION

Once the benefits of green tea become known, the challenge of consuming adequate amounts of high quality green tea throughout the day emerged, giving rise to the development of supplements. A quality supplement can offer the benefits of green tea conveniently.

Companies have focused on producing high concentration supplements which deliver in rich supply of catechins in a serving. Very little thought was given to bio-availability and absorption. We know today it is not what you consume but what you absorb that is the most important factor. We need to then ensure that absorption is achieved in a safe and healthy manner.



Organic Green Tea Extract used in CELLg8® Green Tea



Regular Green Tea Extract

## THE CHALLENGE

A person may consume a desired therapeutic amount of substance but if absorption is limited then the result itself is limited, and there is a greater potential for negative side effects such as gastrointestinal upset. Negative side effects lead to non-compliance and potentially discontinuation.

CELLG8®  
CLINICAL EVIDENCE

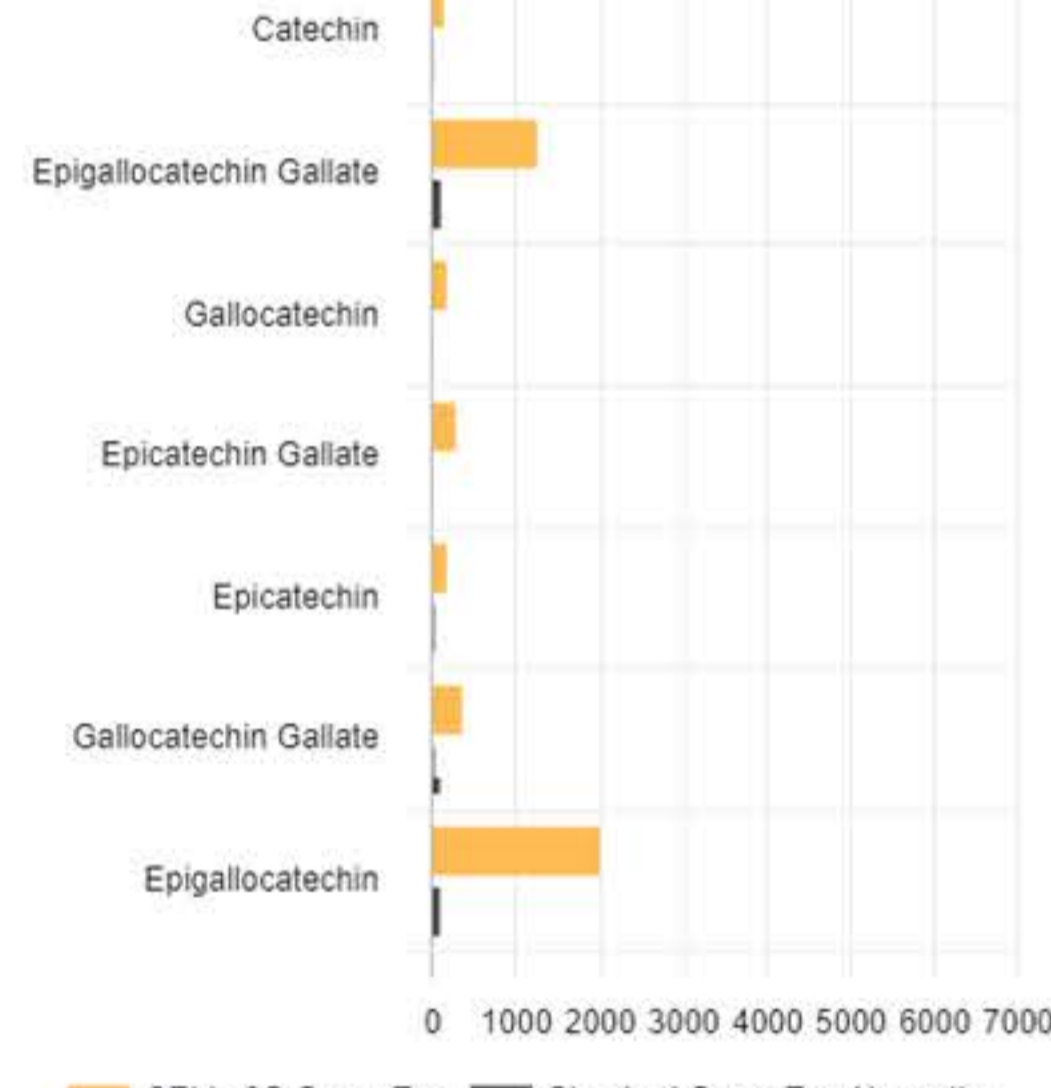
A single centre, non-randomized, blind crossover study involving 26 participants was conducted. The purpose of the study was to assess the bio-availability of liposomal green tea extract compared to a standard commercially available extract of green tea commonly found in green tea supplements.

Participants consumed 200mg twice per day of a standard green tea extract followed by a 14-day washout period and thereafter 200mg twice per day dose of the liposomal extract was consumed. Blood samples were drawn over a 24-hour period post-consumption to measure levels of catechin concentrations in the blood.

A complication of the concentration-time curves (AUC) as determined by LC-MS-MS was possible for levels of epigallocatechin, epicatechin, epigallocatechin, gallate, epicatechin gallate, catechin gallate, gallicocatechin, and total catechin in the plasma. This allowed for comparative statistical endpoints including time at a maximum concentration (Tmax) and maximum concentration (Cmax) for plasma concentrations of individual and total catechins.

VIEW DATA TABLE

VIEW GRAPH



## 11,630 ng/mL

Liposomal green tea extract delivered an average concentration of catechins of 11,630 ng/ml compared to a concentration of 6120 ng/ml delivered by the standard green tea extract. A 12-fold greater average concentration was delivered by liposomal green tea extract. CELLg8® offered complete absorption of all 8 catechins found in green tea. With the exception of EGCG standard green tea extract provided insignificant levels of the other 7 catechins in comparison to CELLg8® as demonstrated in figure 1.

## 6120 ng/mL

The average concentration of Epigallocatechin Gallate (EGCG) delivered by CELLg8® was 6120 ng/ml compared to an average concentration of 612 ng/ml EGCG delivered by the standard green tea extract. EGCG is regarded as key catechin and CELLg8® delivers a 10-fold greater total concentration.

## FAR GREATER HALF LIFE

CELLg8® resulted in a far greater half-life compared to the standard green tea extract. Catechins delivered by CELLg8® were still found to be present in the plasma after 24 hours whereas standard green tea was cleared from the body after only 6 hours. This means that CELLg8® could be used as a once-per-day dose whilst standard green tea would require multiple doses of far greater size throughout the day to deliver the same levels of catechins achieved through a single dose of the far smaller size of liposomal green tea extract.

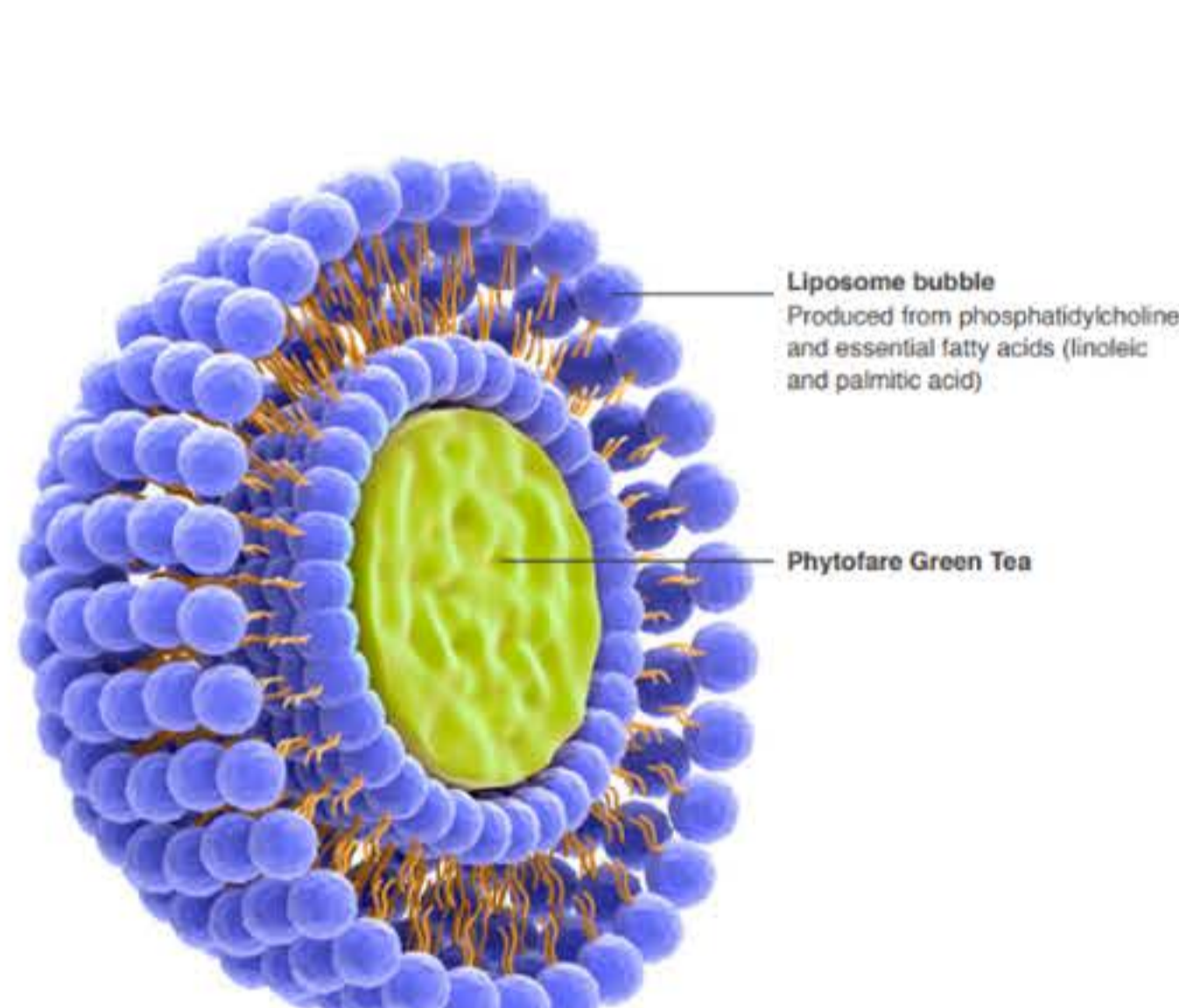
## OUR EDGE

T-Intestinal uptake (bioavailability) of generic green tea catechins is normally low, ranging from 1.68% in humans, similar in rats, and up to 13-26.5% in mice.

CELLg8® catechin complex absorption is further greatly enhanced through CELLg8® science delivering a synergistic complex of all eight catechins mainly the cis isomer from which the body naturally transports the catechins from the gut to the plasma.

CELLg8® selected green tea catechins as the first plant of choice in which to apply its technology. The resulting extract has been named CELLg8® Catechin Complex. The green tea used in the extract is grown in the Nilgiris Ooty area in India with a subtropical climate at 8000 feet above sea level.

CELLg8® Catechin Complex offers a breakthrough green tea extract both in quality, and efficiency, demonstrated by clinical evidence and manufactured in a world class and of a kind category. This is why it was the obvious choice for us when developing CELLg8® Green Tea.

CELLG8® LIPOSOME  
AN ADVANCED BIO-TRANSPORTER

Liposomes are tiny nano-sized bubbles with an outer shell comprised of healthy lipids and a hollow aqueous center that can be filled with a variety of substances. We have long postulated that the other layer of the Liposome protects a substance from gastric juices and liver enzymes, now, clinical studies are showing that Liposomes work by initially protecting the payload from the harsh acidic environment of the stomach. Once past the stomach, the payload is delivered where needed by absorption through one of the many mechanisms available to liposomes. This higher absorption of nutrition allows its full benefit to be realized. An added advantage of liposomes is increased circulation time of the payload, which allows for a longer active life and benefit.

In the case of the liposome used in the production of liposomal green tea extract, phosphatidylcholine is used and extracted from non-GMO sunflower, the liposome itself has the added benefit of becoming nutrition for the liver, brain, mitochondria, eyes, and most essential cells in the human body.

## HUMAN CLINICAL STUDIES LIPOSOME DEMONSTRATION

## Improved Bioavailability

of entrapped molecules

## Increased Uptake

of molecules from gastrointestinal tract

## Protection

of labile molecules from degradation of early metabolism

## Improvement

of distribution and circulatory half-life molecules in the body

## Over and above the improved bioavailability and efficacy, Liposome technology offers additional benefits.

## BIOMATERIAL

Liposome consists of biomaterial that is generally regarded as safe; no synthetic compounds are used in the production of Liposome.

## NO SUGAR OR GLUTEN

Liposome uses no sugar, gluten, or artificial additives and is GMO-free.

## MANUFACTURING PROCESS

The manufacturing process is environmentally-friendly, using no harsh chemicals nor does it contaminate water.



## CELLg8® provides a true breakthrough in liposome manufacturing

## 01.

## High Quality

Organically grown green tea is sourced from the Nilgiris Ooty region of India

## 02.

## Extraction

The proprietary extraction process produces a natural extract with optimal levels of all 8 bioactive catechins

## 03.

## Enhancement

Our organic green tea extract is then flown to Valimenta in the US where it is enhanced with patented CELLg8® technology which enhances bio-availability and active life and stabilizes the catechins from degradation.

## 04.

## Packaged

The final product is bottled and packaged in our GMP facility.

## 05.

## Finished Product

Once tested and manufactured, CELLg8® Green Tea is finished and ready for consumption.

## REVOLUTIONARY ECO-FRIENDLY GREEN TEA EXTRACT OF THE HIGHEST POTENCY AND PURITY.

CELLg8 provides a green tea first-of-its-kind green tea supplement based on a patented extract that when compared to regular green tea extract, created 12 times greater absorption, sustains in the body for up to 24 hours versus 6 hours, and for the first time offers a complete absorption of all eight of green tea's catechins. This has been verified through human clinical studies. All of this is in the convenience of a single capsule per day. The first and only green tea extract to offer complete catechin absorption.