[insert applicable image here – recommend simple photo or drawing of mushrooms]

# EGT: A Game-Changer In The Fight Against Heart Disease?

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# Introduction: The Facts Behind Heart Disease

#### What is Heart Disease?

According to the American Heart Association...

"Heart and blood vessel disease — also called heart disease — includes numerous problems, many of which are related to a process called atherosclerosis. Atherosclerosis is a condition that develops when a substance called plaque builds up in the walls of the arteries. This buildup narrows the arteries, making it harder for blood to flow through. If a blood clot forms, it can stop the blood flow. This can cause a heart attack or stroke."

Some statistics on heart disease:

- Almost 25% of Americans suffer from heart disease and/or stroke.
- Among African-Americans, the number rises to almost <u>50%.</u>
- Heart Disease is the number 1 cause of death in America
- Heart Disease is also the number 1 killer of women in America
- Heart disease now accounts for 1 in 7 deaths in America.
- One person dies of heart disease in the US every 90 seconds
- Cardiovascular disease now claims more deaths than all cancers combined.

[source]

Over the last several decades, medical science has made great strides in understanding, treating, and minimizing the risk of heart disease.

And despite the dismal-sounding numbers, the good news is that the risk of heart disease can be dramatically reduced.

The medical community widely agrees that the following practices can significantly lower the risk of heart disease:

A healthy diet

LOCIVI	ANT EGGG
?	Proper LDL cholesterol levels (200 mg/dL or below is considered safe)
?	No smoking
?	Low alcohol consumption
?	Proper exercise
?	Maintain healthy body weight
	[source]
With a healthy diet, two other factors are helped in part, body weight and lower cholesterol.	
absor	so widely-agreed that a healthy diet requires the proper intake and otion of nutrients. Including key antioxidants that protect and repair various systems at the cellular level.
This is	s particularly important when focus is placed on heart disease prevention.

It's widely accepted that LDL cholesterol is considered to be a major culprit of the onset of heart disease. This is due to the fact that it promotes plaque buildup in major arteries.

This buildup sets off a kind of domino effect, leading to various manifestations [syn: indications; exhibitions] of heart disease.

#### **Including:**

- Heart attack
- Stroke
- High blood pressure (which leads to stroke)
- Sudden Cardiac Arrest (SCA)
- 2 And a variety of other cardiovascular diseases and conditions

It's been universally-accepted that a major stimulant [syn: spark] of LDL cholesterol (and its most detrimental version: Oxidized LDL) is what is known as "oxidative stress".

[source]

### The Oxidative Stress Connection

#### What Is Oxidative Stress?

Oxidative stress is defined as the imbalance in the body between free radicals (highly-reactive unpaired electrons which cause oxidation) and the antioxidants that regulate them. Antioxidants are any substance that prevents or stops free radicals.

Oxidative stress occurs when free radicals outnumber the amount of antioxidants in the body, allowing them to damage important cells.

This can trigger a chain of events, leading to extensive tissue and organ damage. This accumulated damage can lead to a wide range of problems, whose detriment increase with age.

The result is a significantly increased risk of major illness, including cardiovascular disease, degenerative disease, and several types of cancer.

#### The Relationship Between Oxidative Stress and Heart Disease

"Oxidative stress has long been recognized as a causative factor in cardiovascular disease, as resulting production of free radicals and ROS can damage proteins and lipids that are important to healthy functioning of cells within the cardiovascular system (particularly vascular smooth muscle cells, endothelial cells, monocytes, and macrophages)"

Dr. Janet Lee, [insert full title and photo here – source link to interview optional]

In layman's terms, the medical community widely accepts that the oxidation of LDL cholesterol (known as "oxLDL") is instrumental in initiating a wide range of dysfunctional processes at the cellular level.

OxLDL is responsible for profound damage to cells, which in turn leads to their premature death, and accumulation of plaque.

These damaged cells then release this highly-inflammatory plaque while moving through the bloodstream. This plaque tends to stick to the walls of major arteries.

Even worse, clotting abnormalities that may result from this oxidation and inflammation are able to work hand-in-hand to ultimately compromise the arteries' ability to resist the abnormal plaque buildup.

This process causes the surface of the walls to harden and become susceptible to rupture. If any rupture occurs, the result will be either a heart attack and/or stroke, depending on various factors.

To summarize, three key processes damaged by oxidation contribute to the development of cardiovascular disease:

- LDL Cholesterol becomes oxidized LDL (OxLDL) and forms plaque within arteries
- Dysfunction of key cells that are stimulated by OxLDL and other inflammatory mediators, leads to faster plaque growth
- Blood cells have difficulty clotting, which contributes to the hardening of the arterial wall, making it more susceptible to rupture

This is why the active and continuous presence of antioxidants is <u>critical</u> to reducing oxidative stress, thus preventing heart disease.

Simply put, an antioxidant is any agent that suppresses the oxidation process at the cellular level. These agents work by neutralizing free radicals.

"In a biological context, oxidation occurs naturally as various biological components (i.e. DNA, proteins, and lipids) interact with each other to carry out normal physiological functioning. The body has developed a range of systems that deploy antioxidants to regulate cellular oxidation – deactivating the free radicals and the stress that it produces."

Dr. Janet Lee

## Since the body doesn't produce antioxidants naturally, it's essential to include them in the daily intake of food and/or supplements.

The most common antioxidant vitamins are: vitamins A, C, E, Folic Acid, and Beta-Carotene, and various flavanoids.

#### <u>Understanding The Differences Among Antioxidants</u>

It's widely known that the various accepted antioxidants are not all created equal.

Most of the widely-known antioxidants are fat-soluble vitamins (they're digested and stored in the fat of your body), so they possess several inherent limitations to their efficiency once ingested.

One of those limitations is the rather limited bio-absorption (the body's ability to absorb and use any nutrient once ingested) rates of most vitamins in general, including antioxidants.

Due to their molecular structure, the body is only able to absorb and use less than half of the total amount consumed. The rest simply pass through the body either through the kidneys or the liver.

While other antioxidants that are water-soluble (such as Vitamin B and C) can be better absorbed and utilized by the body, they are also only able to do their work outside of the cellular walls. This is due to the fact that they don't possess the molecular structure and/or cell transporter to penetrate a cell's outer membrane.

This renders them unable to repair or save any cells that incur free radical damage within the cells' nuclei.

Since oxidative stress occurs mostly within the cell membrane, and OxLDL does its damage there as well, antioxidants need to be able to enter the cell in order to be most effective in preventing cellular damage.

Due to these limitations, and the lack of supporting clinical studies, the medical science community has been reluctant to tout the effectiveness of most antioxidants available on the market, either in foods or supplements.

Simply put, these limitations that antioxidants possess within the body inhibit their ability to function.

## **Enter Ergothioneine (EGT)...**

In 1909, one of the first viable water-soluble antioxidants was discovered. An amino acid that was extracted from the Ergot species of fungus, and later purified into a compound called Ergothionene, also known as EGT.

In 1958, EGT was found to be present in virtually the entire animal and plant kingdom, although very of them can produce EGT on their own.

Then in later studies, EGT was discovered to possess unique properties that other known antioxidants lacked.

Oddly enough, scientists didn't understand the significance of EGT in those days. This was because they had no way of tracking its capabilities within the human body, until much later.

In fact, the powerful capabilities of EGT went largely unnoticed until 2004. That's when scientists at the University of Cologne made a groundbreaking discovery.

They found that EGT had the unique ability to enter cells, including those within the arteries. This differentiated EGT from all other known antioxidants.

Since then, there have been well over 800 studies demonstrating the effectiveness and promise of EGT in the ongoing battle to prevent heart disease.

[source link here]

#### **Why EGT Is Truly Unique**

The body has "transport systems" that are used to deliver important nutrients to various places. These "transport systems" usually carry multiple compounds at the same time, with varying degrees of success.

It has its own dedicated transporter system in the body (OCTN/ETT, nicknamed "EGT Transport"). This transporter is specifically designed to deliver high concentrations of EGT directly to the cells that need it most.

What's more, EGT possesses a powerful ability to neutralize a wide spectrum of free radicals that are known to plague cells. This is due to its unique molecular structure, and being an amino acid in the sulfur class.

This distinct molecular structure gives EGT a wide range of antioxidant properties that the widely-known water and fat-soluble antioxidants can't match. Especially when it comes to having the capability to neutralize such a wide range of free radicals.

#### More Reasons Why EGT Is Unique

Unlike most antioxidants, EGT is rapidly absorbed within the gastrointestinal tract, and preferentially accumulates in cells that are most vulnerable to damage from oxidative stress.

All current scientific evidence continues to suggest that the "EGT Transport" exists in the body specifically for the intake of EGT. This transporter is custom-tailored to deliver as much EGT as possible into the cells where it's most needed.

Humans aren't the only species that think EGT is crucial. Even the resilient horseshoe crab, one of the oldest living animal species on Earth, carries the EGT Transport System. This is proof that EGT has survived millions of years of the evolutionary process across the entire animal kingdom.

The presence of this transporter in virtually all humans and animals, along with its evolutionary presence in the cells that are most sensitive to oxidative stress, strongly imply that EGT is critically important to their survival.

For these reasons, as well as a wide variety of studies, scientists now suggest that EGT may represent a new vitamin or essential nutrient whose physiologic roles include antioxidant cell protection.

[source]

#### EGT vs. Vitamin C and E

Certainly, the transporters of Vitamin E and C are also conserved in the evolution timeline, but that's where all similarities end.

To be certain, the transporters of Vitamin E and C are also conserved in the evolution timeline, but that's where the similarities end.

Like most other phytonutrients, they're rapidly metabolized and excreted, only a small percentage is absorbed and utilized by the body. This leads scientists to the conclusion that these antioxidants may be less biologically critical than EGT.

[source]

#### **Other Powerful Properties Of EGT**

EGT's structure and reactivity allow it to partially regenerate itself without any additional energy. During this process, it also generates side products that help other antioxidants around it to regenerate.

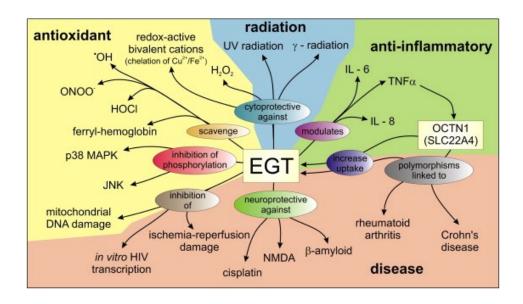
The result? EGT boosts antioxidant defenses across the board.

This is in stark contrast to most other antioxidants, which become rapidly depleted and/or excreted from the body, rendering them unable to help other antioxidants do their jobs.

In addition, recent studies show that EGT is more potent than Vitamin C in protecting endothelial cells against damage from oxidized LDL cholesterol (oxLDL) (Li-2015).

EGT also protects against cell death with experimental conditions of oxidative stress, and is shown to be more potent than both Vitamin C and glutathione.

(source: Paul & Snyder, 2010)



EGT in action...

#### More Unique Benefits Of EGT

EGT not only has the ability to neutralize free radicals, but it can also effectively trap and neutralize toxic heavy metals. It does this via a chemical process called "chelation".

This process helps prevent damage to cellular proteins, caused by oxidative reactions with metal compounds.

An example of this type of damage can be seen in the clotting process of blood, which can be negatively altered by oxidative modifications.

These degenerative effects promote various types of cardiovascular disease. EGT is distinctly able to inhibit these effects where other antioxidants simply can't.

## EGT Is Considered By Many In Medical Science Circles To Be "The Newest Vitamin"

[insert dr. quote here to support this point]

#### The More EGT That You Consume, The Better It Performs

According to a 2012 peer-reviewed study by CSIRO Australia, the more EGT that you take, the more of it your body will absorb and send directly to the cells. This is mainly due to the fact that EGT is highly bio-efficient. [source]

Contrast this to the recommended daily allowance of most other antioxidant vitamins such as A,D,E, and Beta-Carotene, bio-absorption rates are significantly lower than that of EGT.

Recommended intake dosage are in the high double-digit milligram range for all four, and some even carry inherent risks and side effects when taken at higher dosage.

In summary, EGT is a distinctly unique and powerful antioxidant that promotes better cardiovascular health because:

- It fully protects cells against damage from oxLDL, which leads to arterial plaque formation
- It reduces or eliminates the compounded inflammation process within arteries, thus reducing arterial hardening and damage.
- It protects cells essential to blood clotting process from damage, further reducing the risk of heart attack, stroke and most other cardiovascular disease.

# Why Is EGT Only Now Arriving On The Scene?

The main reason behind EGT's late arrival was the fact that its unique qualities to penetrate the cell membrane were only discovered a little more than a decade ago.

Since then, medical researchers and biologists have become more excited about the prospects of EGT.

To find a substance that can directly combat the damage brought on by free-radicals within the cellular wall, thus reducing the levels of oxidative stress, is in a word... *revolutionary.* 

Since then, the biggest obstacle to its mainstream acceptance has been attributed to its difficulty in sourcing. It's not produced organically by plants or animals, but only by microbes dwelling in mineral-rich soil.

In other words, finding viable sources of EGT has been a serious challenge.

While most organisms do end up ingesting EGT via the food chain, they only retain trace amounts at levels that are too low to cost-effectively harvest.

Among plants, beans were found to have the highest natural levels of EGT. However, still at levels too low to make its harvesting viable.

This sourcing/supply limitation has kept EGT from being more widely used and accepted as a viable antioxidant, also *until* only recently.

In [xxxx], EGT was discovered in high levels in mushrooms. In fact, some types of mushrooms contain more than 40 times the amount of EGT than the level found in beans.

Despite this breakthrough, however, it's also been found that the potential of using mushrooms for sourcing EGT fluctuates wildly, depending on several external conditions which include soil composition and climate, among others.

Since the discovery of EGT's unique cell transport properties in 2004, Mironova labs has been tirelessly working on the best way to process and make EGT available to the consumer market.

12 years later, thanks to a cutting-edge, patent-pending process by Mironova Labs, EGT is now widely available.

## **Introducing Mironova EGT+**

[insert product image here]

"More than a century since EGT's discovery, Mironova Labs is the first company to bring this important ingredient to the nutritional marketplace and make EGT available at a price affordable for daily use."

Jan Trampota, CEO – Mironova Labs

- 2 Revolutionary by design
- Protects against oxLDL (Oxidized LDL Cholesterol), the main culprit behind heart disease
- 2 Helps prevent arterial plaque buildup and inflammation
- Backed by over 800 peer-reviewed studies supporting the effectiveness of EGT

#### Mironova EGT+ Is An Essential Part of a Heart-Healthy Regimen:

If you're over 40, and want to ensure optimal cardiovascular health:

- Exercise regularly 30 minutes a day/5 days a week
- Eat healthy
- Don't smoke
- Eat fresh fruits and vegetables daily
- ☑ Take 5mg of Mironova EGT+ daily

#### Mironova EGT+ has no side effects

As of the latest research and studies to date, zero side effects have been experienced by test subjects taking standard doses of Mironova EGT+.

In fact, test subjects taking as much as 10,000 times the normal dose of Mironova EGT+ continued to report <u>zero side effects</u>.

#### <u>Unparalleled In Potency</u>

Mironova EGT+ is the dietary supplement with the highest concentration of EGT available in a reliable, convenient daily serving.

[Add in the graph from the EGT story page discussing serving size]

# Finally... a safe, long-term solution to countering arterial plaque buildup and oxidative stress, the two biggest catalysts of heart disease, is within reach.

"Mironova Labs is the only manufacturer of EGT in the United States, and as a manufacturer in the U.S. in 2016 with a long-term view, the only way to remain competitive is to keep the process ultra-efficient and green – these two work together hand in glove."

Jan Trampota, CEO - Mironova Labs [insert photo]

[Space for additional quotes/citations, as well as anecdotal testimonials or other direct quoted reviews here]

## **Try Mironova EGT+**

To receive a free trial sample of Mironova EGT+, visit our website.

### **Resources:**

#### Want to find out more?

Here are some helpful links to studies, articles, materials and other information about EGT:

[insert vetted/approved bibliography and links to recommended scientific articles and other resources here]

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For more information, please contact us at: [insert contact information here]