



» What is Collagen?

Building Blocks of our body-Collagen

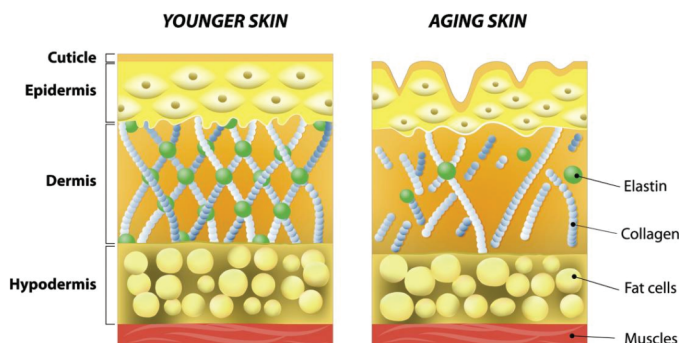
The most abundant protein in mammals, collagen comprises a significant portion of the substance that surrounds our cells. Think of it as the cement that binds cells together. The collagen structure itself is formed by the twisting and intertwining of long chains of certain amino acids (i.e., the building blocks of protein), to form a rope-like structure. Each of these further twist into each other, eventually forming a matrix that holds the body's cells, nutrients and moisture.¹ The smooth appearance of our skin is primarily due to the even consistency of these structures.²

» Why Collagen Degrades?

Exposure to certain factors like the sun's UV rays, pollution, dust, etc. tends to create an excess of free radicals in the body. These are unstable molecules that damage cells, proteins and other molecules in their path, including collagen.

Our body produces fresh collagen every 30-45 days to repair this damage and replenish its structure. However, its ability to produce collagen slows down with age, with a drastic reduction occurring during our 20's.

Hence, our skin structure gets compromised, as well as its ability to continue repairing the damage.





➤ What Happens when Collagen Degrades?

We know that Collagen is the most plentiful protein in your body. It's in our muscles, bones, tendons, ligaments, organs, blood vessels, skin, intestinal lining and other connective tissues.

While we can't measure your collagen level, we can tell when it's falling.

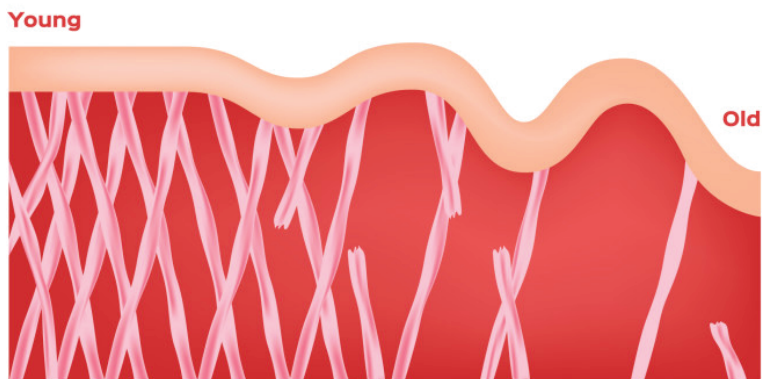
Collagen decreases as you get older, contributing to:

- Wrinkles and crepey skin
- Stiffer, less flexible tendons and ligaments
- Shrinking, weakening muscles
- Joint pain or osteoarthritis due to worn cartilage
- Gastrointestinal problems due to thinning of the lining in your digestive tract

"Aside from aging, the top reason people don't have enough collagen is poor diet," Dr. Bradley says. "Your body can't make collagen if it doesn't have the necessary elements."

So, we can either prevent collagen damage to help collagen building to let our hair and skin show less evidence of aging.

COLLAGEN and AGE





➤ Preventing Collagen Damage

Antioxidants are molecules that can stabilise free radicals, preventing the damage they'd otherwise cause.

Our body has its own antioxidant reserves in place to protect itself from free radical damage- but they need to be replenished so as to cope with the free-radical inducing elements of the environment and/or our lifestyles.

Obtaining sufficient amounts of antioxidants through the foods we eat can be an effective way to prevent free radical damage. Their ability to maintain or even improve certain aspects of our health makes them immensely powerful nutrients.³

Among collagens, type I is the most abundant and comprises between 85% and 90% of the total collagen in skin (9). Type 1 collagen damage by UVB irradiation results in photoaging. Strategies to prevent or at least minimize ROS-induced photoaging and intrinsic aging of the skin necessarily include protection against UV irradiation and antioxidant homeostasis.

➤ Making collagen naturally

When your body makes collagen, it combines amino acids — nutrients you get from eating protein-rich foods, like beef, chicken, fish, beans, eggs and dairy products.

The process also requires vitamin C, zinc and copper. You can get vitamin C by eating citrus fruits, red and green peppers, tomatoes, broccoli and greens. You can get the minerals by eating meats, shellfish, nuts, whole grains and beans.

“As you age, however, your body may no longer absorb nutrients as well or synthesize them as efficiently,” Dr. Bradley says. “To make sure your body has enough ingredients to make collagen, you may need to change what you eat or take dietary supplements.”

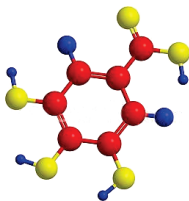


- Antioxidant potential to prevent Collagen damage
- Help build and replenish Collagen
- Prevent Collagen Degradation

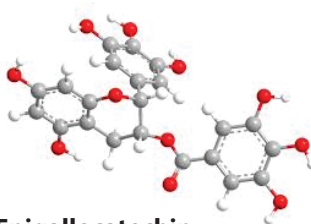
HPLC Analysis to identify the Bioactive Molecules

This is a proprietary blend of green tea (90% green tea polyphenols), Green Coffee(50% Chlorogenic acid) and Amla.

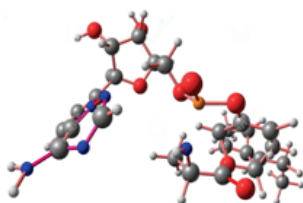
The Biomolecules-



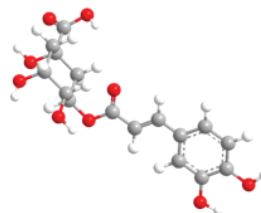
Gallic acid



Epigallocatechin



Tannic acid



Chlorogenic acid

Scientific Validation Clinical Studies

- **STUDY 1** 10X more Collagen Building Activity
- **STUDY 2** 35% Increase in Type IV Collagen Synthesis
- **STUDY 3** Safety Evaluation
- **STUDY 4** 50% Reduction in Type II Collagen degradation
- **STUDY 5** 10X Protection from Type I Collagen damage

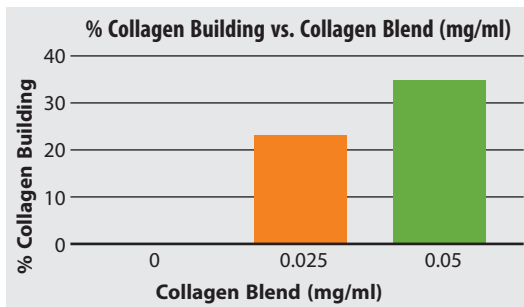


FINDINGS OF STUDY 1 & 2

Study 1 - 10X more Collagen Building Activity

Study 2 - 35% Increase in Type IV Collagen Synthesis

In Vitro Collagen Production on Human Dermal Fibroblast cells were studied by Collagen Building proprietary blend.

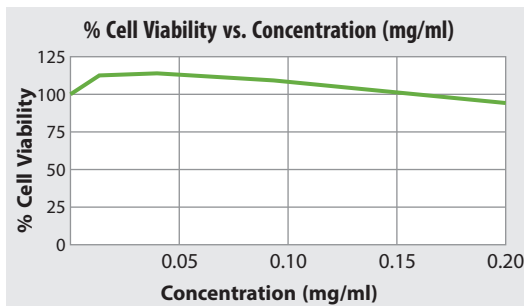


STUDY 3- SAFETY EVALUATION

Cytotoxicity Determination

In-Vitro study of cell viability-

This study aims at defining the measure of cell survival following treatment with compounds, such as during a drug screen.



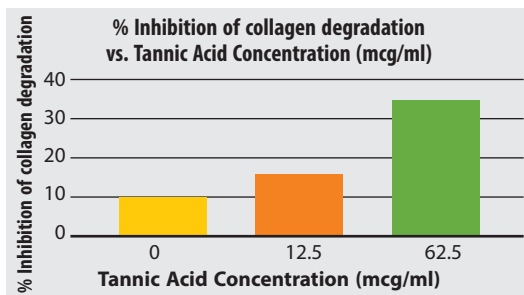
Results

More than 90% cell viability was noticed at all concentrations.

Safe to use at much higher concentrations than effective concentrations

STUDY 4 50% REDUCTION IN TYPE II COLLAGEN DEGRADATION

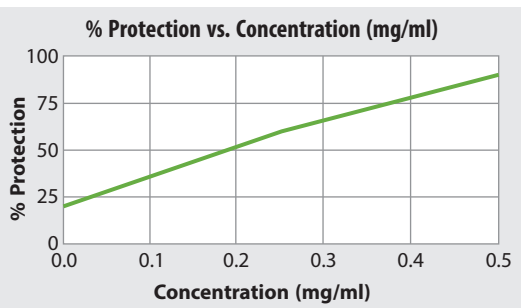
Tannic Acid Concentration (mcg/ml)	Tannic Acid Concentration (mcg/ml)
0	0
12.5	12.5
62.5	62.5





STUDY 5- 10X PROTECTION FROM TYPE I COLLAGEN DAMAGE

Concentration (mg/ml)	% Protection
0	20
0.125	40
0.25	60
0.5	90



Facility Accreditation

Food safety System certification ISO22000, GMP certified facility.

Product Features

- Effective concentration: 0.4 mg/ml shows a 30 % collagen synthesis.
- The product is standardized for 30% green tea, green coffee polyphenols.
- The product is free flowing powder, hence suitable for oral dosage forms
- More than 90% water soluble

CollaBZen™ goes in below Market Products



- **STUDY 1** - 10X more Collagen Building Activity
- **STUDY 2** - 35% Increase in Type IV Collagen Synthesis
- **STUDY 3** - Safety Evaluation
- **STUDY 4** - 50% Reduction in Type II Collagen degradation
- **STUDY 5** - 10X Protection from Type I Collagen damage



Zenherb Labs™

- Building standardised ingredients
- Speciality Nutri- and Cosme-botanicals
- Claim substantiation by scientific studies
- Custom ingredients development
- Formulation support

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