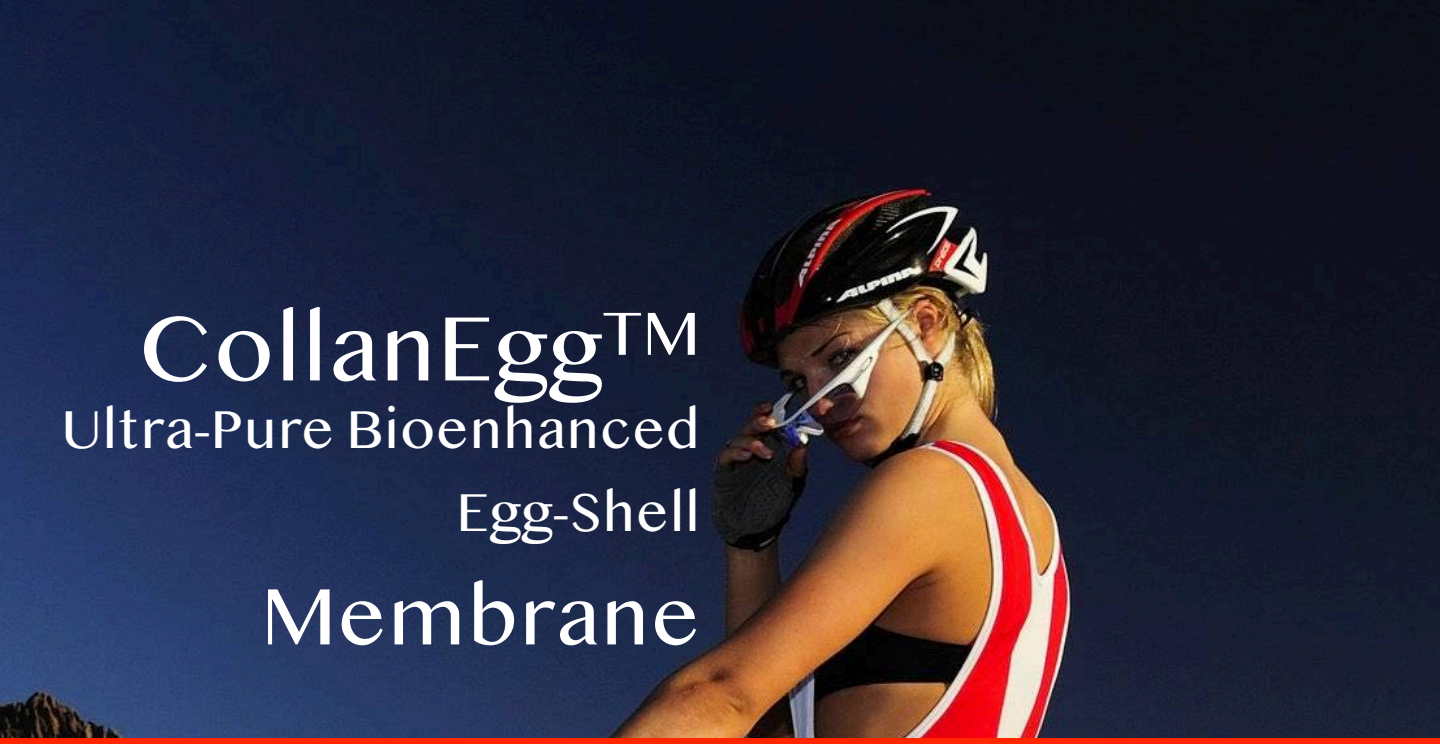


CollanEgg™
Ultra-Pure Bioenhanced Egg-Shell Membrane

Collagen

ND Pharma & Biotech

CollanEgg™

Innovation and Technology in Nutrition

CollanEgg™

Ultra-Pure Bioenhanced Egg-Shell Membrane Collagen

Collagen is the most abundant protein found throughout the human body and one of the most vital proteins in the body.

It's what gives our skin its strength and elasticity. In addition to our skin, collagen is most commonly found in our bones, muscles and tendons. You can think of collagen as the "glue" that holds us together.

One awesome food source of collagen protein is the benefit-rich egg, and egg collagen is full of health benefits.

Why is collagen important? As we age, our collagen production naturally begins to slow down. Thanks to decreases in collagen, we get sagging skin, wrinkles and weaker cartilage in our joints.

Other things that decrease collagen production include a high-sugar diet, excessive alcohol intake, sun exposure and smoking.

Egg Protein Benefits & Uses

Egg protein has just the right mix of essential amino acids needed by humans to build tissues, containing 18 overall. Many healthy foods promote collagen production, but there are few actual collagen sources in food, but I have good news — eggs have collagen! Research has shown collagen is found in both the shell membranes and yolk of chicken eggs. Indeed, the health benefits of egg collagen are impressive, and We are excited to tell you all about them.

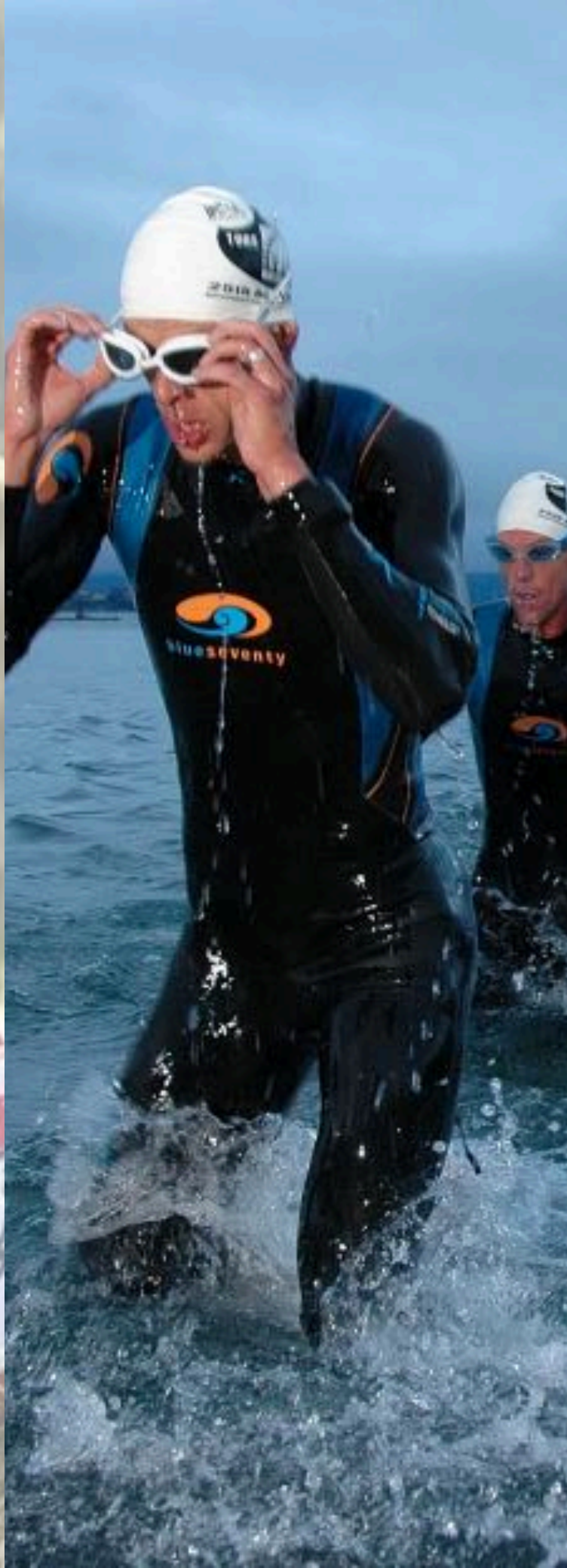
What is Egg Collagen?

When it comes to major sources of collagen, eggs definitely make the list. Eggs have inner and out membranes, which are between the eggshell and egg white. These two transparent protein membranes provide efficient defense against bacterial invasion of the egg. Studies have shown that collagen is found in the egg shell membranes of hens.

Specifically, materials similar to type I and type V collagens were detected in the two layers of the membrane, the thick outer membrane and the thin inner membrane.

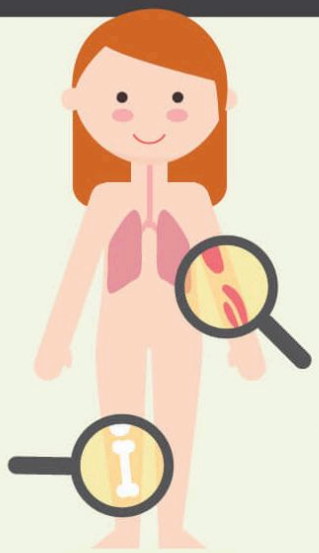
Our product is presented in powder form obtained by a 100% Natural Process under proprietary technology to be sure that we get out the maximum benefit from ***Testaceous Membranes*** *from Egg-Shells that are inner part of shells.*

So this is the best Collagen obtainable.



Infography

Guide to EGG COLLAGEN



Collagen is the most abundant protein found throughout the human body

It's what gives our skin its strength and elasticity
In addition to our skin, collagen is most commonly found in our bones, muscles and tendons

You can think of collagen as the "glue" that holds us together

Many healthy foods promote collagen production, but there are few actual collagen sources in food

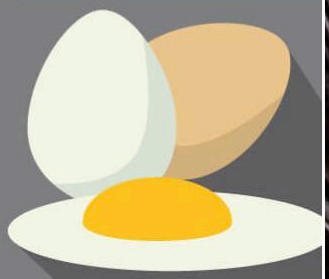
GREAT NEWS!

Eggs naturally contain collagen

Research has shown collagen is found in both the membranes and yolk of chicken eggs

They also contain collagen-promoting nutrients like B vitamins, vitamin E, amino acids and sulfur

Egg protein has just the right mix of essential amino acids needed by humans to build tissues — second only to mother's milk for human nutrition.



Why is egg collagen important?

As we age, our collagen production naturally begins to slow down

That can lead to sagging skin, wrinkles and weaker cartilage in our joints

5 major benefits of egg collagen:

1. Addresses joint and connective tissue disorders
2. Improves skin quality and decreases wrinkles
3. Increases range of motion
4. Decreases pain and stiffness
5. Improves digestion

Other things that decrease collagen production include:

A HIGH SUGAR DIET
EXCESSIVE ALCOHOL INTAKE
SUN EXPOSURE
SMOKING

Since cooking an egg denatures the membranes, an egg collagen supplement is the best and easiest way to obtain the collagen that naturally occurs in eggs

If you choose to up your collagen levels from an egg itself then it's nice to know that one large, hard-boiled, 50-gram cooked egg is highly nutritious and contains about: (7)

78	**CALORIES**
0.6	**GRAM CARBOHYDRATES**
6.3	**GRAMS PROTEIN**
5.3	**GRAMS FAT**

CHOLESTEROL	186mg | 62%DV
SELENIUM	15.4mcg | 22%DV
RIBOFLAVIN	.3mg | 15%DV
VITAMIN D	44 IU | 11%DV
VITAMIN B-12	.6mcg | 9%DV
PHOSPHORUS	86mg | 9%DV
VITAMIN A	293 IU | 6%DV
FOLATE	22mcg | 5%DV

Egg Collagen Nutrition Background

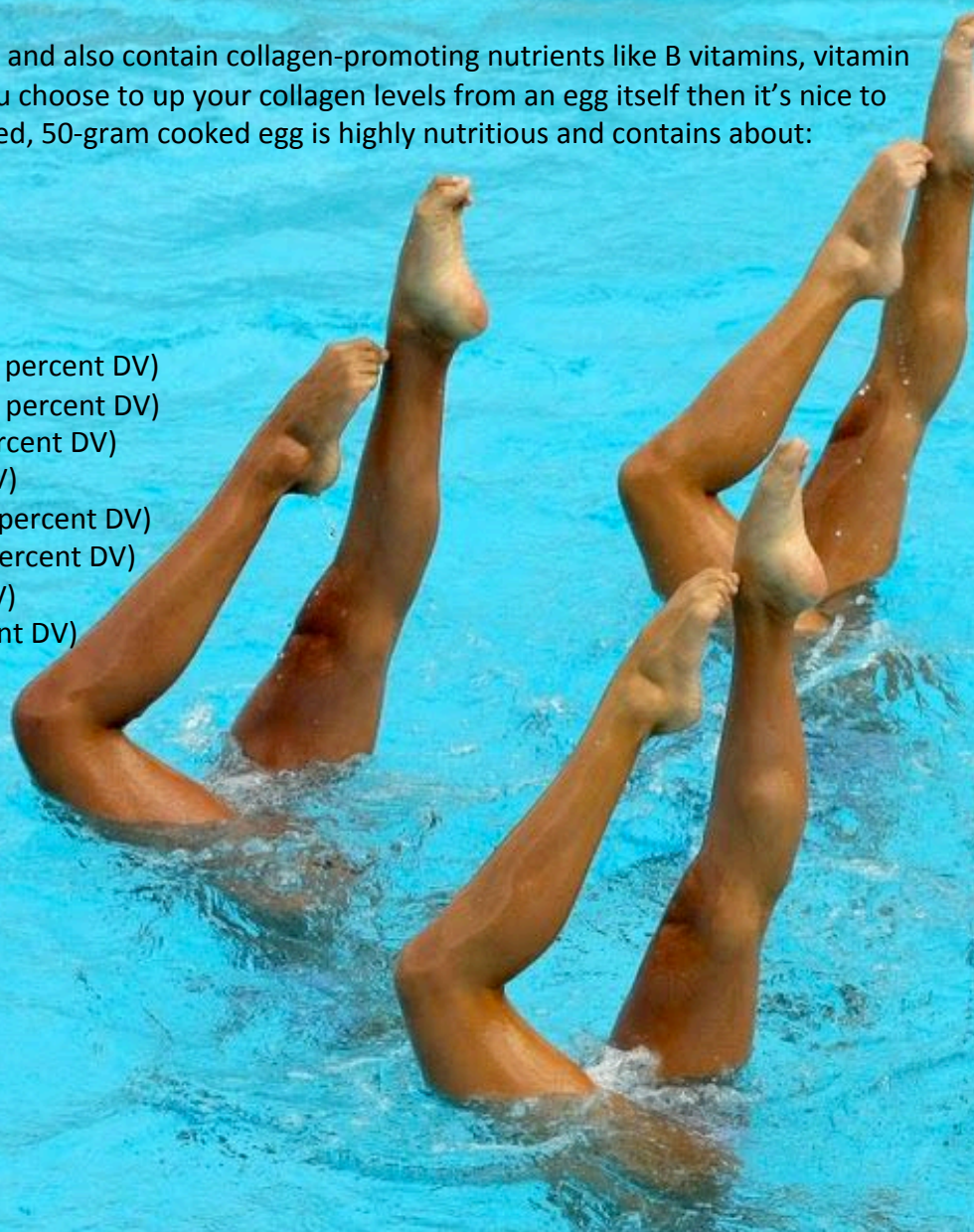
The nutritional value of egg collagen supplements will vary, but pretty much any high quality collagen supplement will be rich in amino acids and protein.

Collagen itself is a protein made up of amino-acids including **glycine**, **proline, glutamine, hydroxyproline and arginine**. These are amino acids that are produced by your body under normal circumstances. However, when you're sick, stressed or otherwise unhealthy, your body may not be able to produce enough of these amino acids on its own. It needs help from outside sources like your diet and supplements (like egg collagen) to get enough.

Eggs naturally contain collagen and also contain collagen-promoting nutrients like B vitamins, vitamin E, amino acids and sulfur. If you choose to up your collagen levels from an egg itself then it's nice to know that one large, hard-boiled, 50-gram cooked egg is highly nutritious and contains about:

78 calories
0.6 gram carbohydrates
6.3 grams protein
5.3 grams fat
186 milligrams cholesterol (62 percent DV)
15.4 micrograms selenium (22 percent DV)
0.3 milligram riboflavin (15 percent DV)
44 IU vitamin D (11 percent DV)
0.6 microgram vitamin B12 (9 percent DV)
86 milligrams phosphorus (9 percent DV)
293 IU vitamin A (6 percent DV)
22 micrograms folate (5 percent DV)

DV (Recommended Daily)



Glycine has been found to help inhibit the deterioration of valuable protein tissue that forms muscle and boosts muscle recovery. In fact, it's known as an "anti-aging amino acid" because of how it helps maintain lean muscle mass into old age, stimulates the secretion of human growth hormone, prevents loss of cartilage in joints, and even improves daytime energy, physical performance and mental capabilities (all important for athletes).

Glycine is used during the biosynthesis of creatine, which provides muscles with a direct source of fuel to repair damage and grow back stronger. It also helps provide cells with energy thanks to its role in the conversion of nutrients from your diet, helping feed hungry muscle tissues and boosting endurance, strength and performance. It also has benefits when it comes to hormone production and regulation, helping the body naturally synthesize steroid hormones that regulate the ratio of fat to muscle mass and control energy expenditure.

Egg Collagen Health Benefits

1. Helps Joint and Connective Tissue Disorders

Egg shell membranes are rich in nutrients similar to types I and V collagen, glucosamine sulfate, chondroitin sulfate, hyaluronic acid, glycosaminoglycans and amino acids. These are all greatly beneficial to joint and connective tissue health. The high collagen content of the egg's membranes make it especially helpful in the treatment of connective tissue diseases. Collagen actually provides the slender fibers of the interlaced strands that make up tendons and ligaments.

One study looked at Natural Eggshell Membrane (NEM), an egg collagen dietary supplement. Two human clinical studies were conducted to determine the effectiveness and safety of NEM as a treatment for pain and inflexibility associated with joint and connective tissue disorders. They found that 500 milligrams of NEM taking once daily significantly reduced pain, both rapidly (seven days) as well as continuously (30 days).

2. Improves Skin Quality & Decrease Wrinkles

Collagen is absolutely essential to healthy, younger looking skin. A 2015 study investigated the potential for egg shells membranes to be used for cosmetic use. Specifically, they looked at the ability of egg shell membrane hydrolysates to protect the skin from wrinkles, sun exposure, and moisture loss. To determine whether or not egg shell membranes can be utilized as functional cosmetic materials, researchers examined the level of hyaluronic acid and collagen production in animal subjects.

Results proved egg shell membranes to have outstanding effects in the suppression of skin aging, which included their ability to mitigate UV-B radiation-induced wrinkles. Overall, the research points towards egg shell membranes definitely being an excellent choice for natural beauty products.

3. Increases Range of Motion

Research published in The Journal of Medicinal Food in 2015 looked at the effects of consumption of hydrolyzed water-soluble egg membrane collagen (WSEM) on joint function in an otherwise healthy population experiencing chronic pain. The study was randomized, double-blind and placebo-controlled. Subjects took the egg membrane preparation for four weeks and took the placebo for four weeks, with the two time spans separated by a four-week break period.

When subjects were evaluated after egg membrane was taken, there were significant improvements in both cervical lateral and knee range of motion compared to the same people consuming placebo. Highly significant improvements in range of motion were also seen in the neck and dominant shoulder.

4. Decreases Pain and Stiffness

The most prevalent form of arthritis is osteoarthritis. It currently affects millions of individuals worldwide. Osteoarthritis occurs when the protective cartilage on the ends of your bones wears down over time, and it most commonly affects joints in the hands, knees, hips and spine.

Eggshell membrane supplements containing egg collagen have been shown to reduce arthritic pain and stiffness of joints resulting from osteoarthritis of the knee. One double-blind, randomized, placebo-controlled study published in Clinical Rheumatology gave an egg membrane supplement to subjects at a dose of 500 milligrams per day. Results showed that it was an effective and safe option for the treatment of pain and stiffness associated with knee osteoarthritis — and that egg collagen should be part of an arthritis diet. Joint pain and stiffness were significantly reduced compared to placebo at 10, 30 and 60 days.

Eggshell membrane collagen might be beneficial even for pain caused by normal exercise rather than a medical problem. In healthy, postmenopausal women, the egg collagen supplement NEM improved exercise recovery joint pain, stiffness and discomfort in as little as four days.

5. Improves Digestion

Proline and glycine are two amino acids found in egg collagen that play a major role in ensuring your body's running smoothly. These two amino acids actually help to rebuild tissue that lines the digestive tract. By rebuilding this crucial tissue, glycine and proline help to keep food particles and bacteria inside the gut where they belong, rather than allowing tiny openings to form that pass particles to the bloodstream where they trigger inflammation.

Glycine has been shown to protect against intestinal injury from colitis, an inflammatory reaction in the colon. Thanks to glycine and proline, egg collagen can help protect the gut and in turn, the whole body, from inflammation.

Parameter	Specification	CofA
Product Name	COLLAGEGG™	
Product No	n/a	----------
CAS Number	n/a	----------
Batch#	n/a	n/a
Physicochemical specification		
Humidity (%)	2-4	
Dry extract (%)	94-98	
Protein (%)	90-95	
Fat (%)	<2	
Ash (%)	<2	
Organoleptic specification		
Appearance	Very fine powder	
Colour	Whitish	
Taste	Tasteless	
Smell	Priceless	
Solubility	Water soluble when it is shaken	
Microbiological Specifications RD (CE) 2073/2005		
Salmonella	Absence in 25 g	
Antibiotics	Negative	
Enterobacteriae	<10 c.f.u./g	
Aerobic	$<10^3$ c.f.u./g	
Other criteria		
Allergens	Egg	
GMO	Absence	
Gluten	Absence	
Residuals or non authorised substances	Absence	

FICHA TECNICA COLLANEGG TM
COLAGENO DE CUTICULA DE CASCARA DE HUEVO
PARA USO EN ALIMENTACIÓN

1. **Nombre de la Firma** ND Pharma & Biotech
2. **Nombre del producto** COLLANEGG™ (Egg Shell Membrane Collagen)
3. **Marca Comercial** COLLANEGG™
4. **Fábrica productora y dirección, provincia o país:** BU 43 Spain
5. **Descripción**
   Colágeno de cutícula de cáscara de huevo, extraído de forma totalmente natural mediante acción mecánica, lavado y secado.
6. **Composición**
   100 % membrana interna de cáscara de huevo.
   - 35% Colágeno
   - 2 % Sulfato de Condroitina
   - 2 % Glucosaminoglicanos
   - 2 % Ácido hialurónico
   - 1 % Queratán y Dermatán sulfato
   - 3,5 % Lisozima
   - Otros: IGF-1 factor de crecimiento insulínico, TGF-β factor de crecimiento de transformación, desmosina, isodesmosina, elastina, ovocalixina, ovotransferrina y numerosos aminoácidos, entre ellos todos los esenciales.
7. **Dosis y/o Forma de uso**
   De acuerdo a aplicaciones y uso final
8. **Materias primas empleadas o composición**
   Cáscaras de huevo de gallina procedentes de centros de pasteurización UE
9. **Acondicionamiento del producto**
   Envasado: Bolsas de aluminio termo-sellado de 5 Kg
   Empaquetado: Bolsa en caja de cartón
   Dimensión del palé (EUR|USA): 80x120x167|100x120x167
   Total cajas/palé (EUR|USA): 70 u/palé | 98 u/palé

   Condiciones de almacenamiento: Conservar en lugar fresco y seco, no exponer a la luz solar.
   Fecha de consumo: En condiciones correctas de conservación, 3 años desde la fecha de fabricación.

For a more detailed information about COLLANEGG ™ and food, nutrition & supplements industrial applications please write us to:
info@ndpharmabiotech.com under Reference: COLLANEGG ™

The All-Natural EggShell Membrane Collagen

For Food, Nutrition & Cosmetic Applications

ND Pharma & Biotech

CUTTING-EDGE RESEARCH AND INNOVATION
In The Medical & Health Fields

Our Research Labs are conducting an experimental research project with the objective of developing a natural cell- wound-healing product, and it is expected that the product will be commercially available in a near future.
This product will be critical in the Healing of Chronic Wounds and Ulcerative Lesions non-responsive to other existing treatments.

Chronic wounds and ulcerative lesions are an increasing problem Worldwide.
“An aging population and the growth in the number of people with diabetes, lower limb ischemia, alcoholism, and other metabolic origin secondary wounds and ulcers, population affected by such diseases are experiencing and being part of public health noted rapid growth in the occurrence of chronic wounds.

Approximately 35 million people throughout the world are currently suffering serious problems as a consequence of such chronic wounds and related diseases, as infections, claudication and finally amputation in severe cases. In many cases, the wounds are so severe that amputation becomes necessary, unfortunately.

One of the main reasons that prevents such wounds not healing is that cells that are normally responsible for the process do not behave as it as expected from normal tissues and cells. Among other factors, the cells do not properly produce the extracellular matrix, which is a sort of network around the cells.

Wound-healing properties from the thin membrane present immediately under the shell of an egg have long been recognized in Oriental Materia Medica and certain traditional medicines.

As ND Pharma & Biotech Co. is a pioneer within the field of Stem Cells and Stem Cell proliferation and developing, we are engaged in the Discovery and Commercial Developing of Innovative Solutions scalable within the Medical and Health sectors.

ND Pharma & Biotech

CollanEgg™

All Natural EggShell Membrane Collagen

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ND Pharma & Biotech is a biopharmaceutical company that discovers, develops and commercializes innovative products and therapeutics in areas of unmet medical, food, nutritional, agro, industrial and many other needs. The company mission is to advance the care of people suffering from certain diseases, worldwide and to make life better promoting green chemistry issues and removing certain chemical toxics from our daily lives. Company also acts as a chemical supplier and molecular provider including certain rare molecules and hard-to find compounds, API's Intermediates, Reactives, etc. Headquartered in Surrey, England, UK, ND Pharma & Biotech Company has operations worldwide thru a network of commercial and industrial partners, both companies and/or corporations.

For product information, territorial availability, terms and conditions and/or any other relevant information please visit us at *www.ndpharmabiotech.com* or alternatively write us an e-mail to: *info@ndpharmabiotech.com,* referencing and stating clearly the purpose of your communication.