

# HOLISTA COLLTECH

Holista CollTech Ltd (ASX: HCT) is a research-driven biotech company, the result of the merger between Holista Biotech Sdn Bhd and CollTech Australia Ltd. The company is dedicated to delivering wholesome natural ingredients and wellness products. Holista CollTech is the only company in the world producing sheep (ovine) collagen, using its patented extraction methods and it is on track to nano-nising and liposome encapsulating the ovine collagen. Holista CollTech researches, develops, manufactures and markets healthstyle products to address the unmet and growing needs of natural medicine. The company also leads in research into herbs and food ingredients from Malaysia's rainforest – the oldest in the world. Holista CollTech's mission is to produce natural health supplements of world class quality that are scientifically enhanced.

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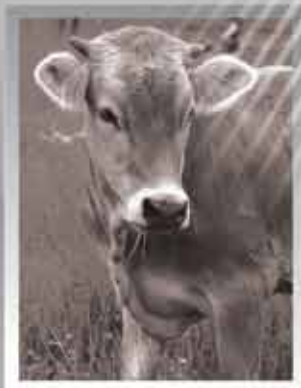
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[www.holistaco.com](http://www.holistaco.com)

**OVINEX™**  
premium sheep collagen

Our unique patent  
ensures that we get  
**PREMIUM  
SHEEP  
COLLAGEN**

from skin after the sheep  
that would be otherwise  
thrown away...





## What is Collagen?

Collagen is the most common protein found in the human body. It is the main component of connective tissue and is the most abundant protein in mammals, making up 25-35 percent of total protein.

It is found in:

- hard tissue (ligaments, tendons)
- soft tissue (skin, intestine)
- structural tissue (bone, inter-vertebral disc)

The protein of collagen reduces as we age. Our bodies lose collagen at a rate of about 1.5 percent per year from the age of 25. This means when we reach 45, we would have lost 30 percent of collagen. Today, with the growth of anti-aging medication, there is tremendous interest in collagen.

## Sources of Collagen

### Mammalian

Pig and cow have lots of cultural issues. With Australian patents and extraction technology, it allows us to extract collagen from the skin of sheep. Sheep (ovine) collagen faces no cultural or religion issues. Sheep collagen from Australia is sourced from animals that carry a “Disease Free Sheep” certification, the only such certification in the world.

### Bird

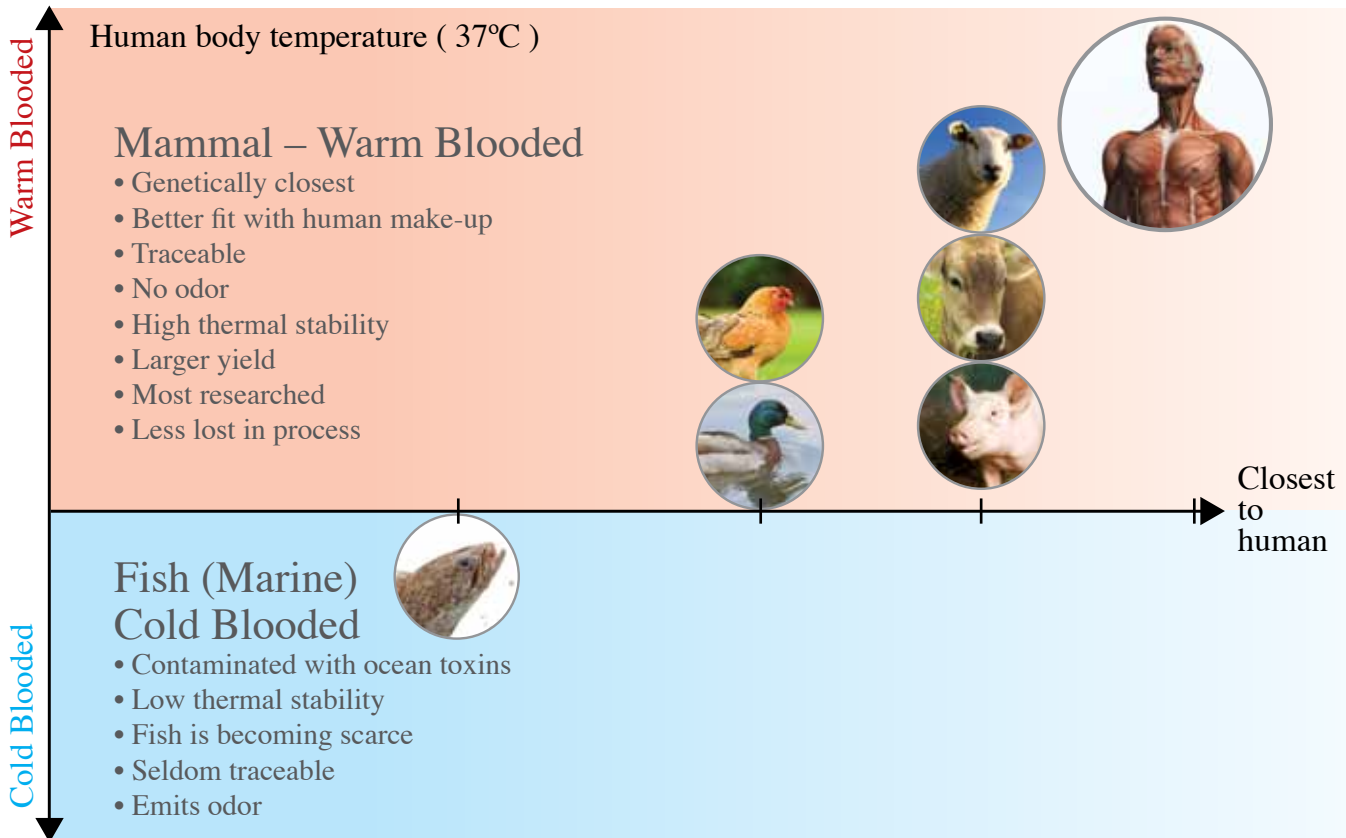
This is a good warm-blooded source. The most common are chicken and duck. However, these animals are not genetically close to mammal. The other concern is disease as there is frequent outbreak of bird disease, the Avian Flu.

### Fish

Toxic heavy metals in the ocean are global problems that are a growing threat to humanity. These fishes are contaminated to toxins such as metals, mercury, lead and arsenic. Moreover, fish is cold-blooded and not genetically close to human.



## Comparison of Collagen Sources



In the past, collagen has been manufactured from bovine (cow) and porcine (pig) skins through a process of acid solubilisation and enzymatic digestion to yield hydrolyzed Type I/III collagen.

In recent times, bovine collagen has become less desirable due to safety issues surrounding Transmissible Spongiform Encephalopathies (BSE – Mad cow disease).

Products produced from bovine and porcine sources are also not acceptable to all global cultures because of religious reasons. Now ovine collagen is available.

### Collagen Sources and their characteristics.

COLLAGEN	OVINEX™	Bovine	Marine	Porcine
Source	Sheep	Cow	Fish	Pig
Tissue	Skin	Skin	Scales	Skin
Type	I/III	I/III	I/III	I/III
Disease issue	None	Mad cow disease ( BSE )	Not known	Many known diseases
Cultural sensitivity	None	Hindus, Sikhs, Buddhists	None	Muslims, Jews
Halal	Yes	Yes	Yes	No
Traceability/QA	Yes	Yes	No	Yes
Thermal stability	High	High	Low	High

<sup>1</sup> Laurière, M, Pecquet, C, Bouchez-Mahiout, I, Snégaroff, J, Bayrou, O, Raison-Peyron





# Mammalian Collagen is Better

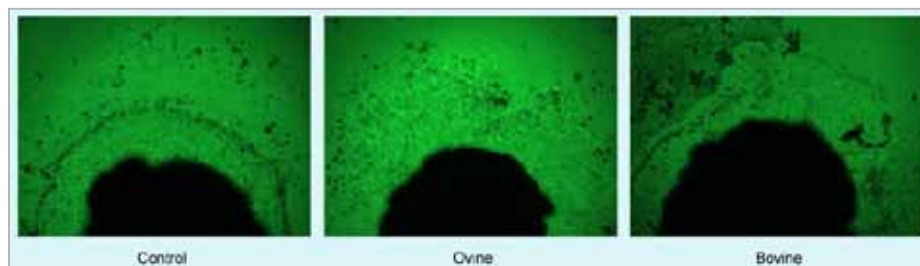
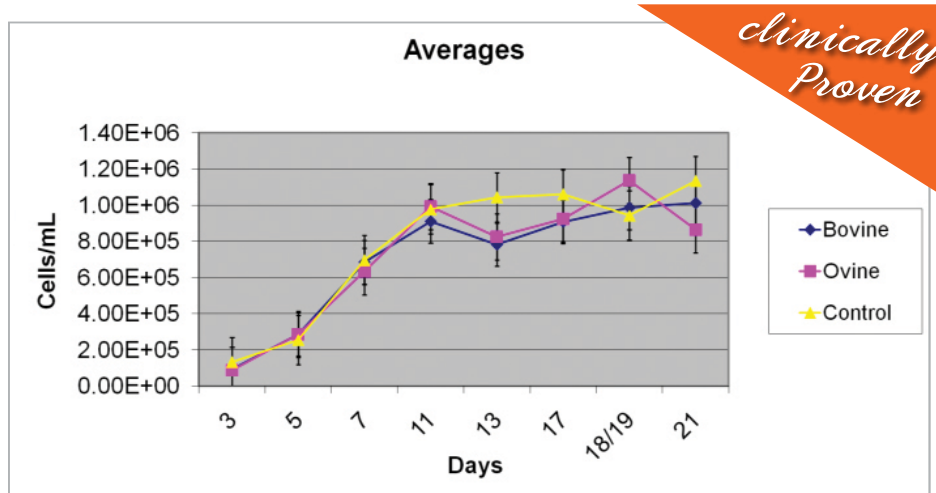
Mammalian-derived collagen is genetically closest to humans and least likely to cause allergy or rejection. You need to draw collagen from big mammal like sheep, pig and cow that is cultivated domestically in large numbers.

## Ovine compares to Bovine collagen

Collagen is the major structural protein found in human connective tissue and is widely accepted as safe and natural biomaterial for the manufacture of a broad range of medical products.

In the wound-healing arena, collagen is found in numerous dressings, dermal substitutes and tissue engineered skin equivalents. However, since the advent of Mad Cow Disease, there has been a market need for a safe and acceptable collagen source to replace bovine collagen used in existing collagen-based healthcare products.

Ovine (sheep) collagen obtained from an isolated disease-free herd in Australia is the most sensible alternative. It has many advantages over bovine, marine or porcine sources of collagen, including being safe, fully traceable from the “farm to the solution” and culturally acceptable worldwide (acceptable to Muslim, Hindu and Buddhist populations as opposed to porcine and bovine collagen).



## OVINEX™ - Premium Ovine Collagen from Australian Sheep that are Certified Disease Free

*introducing  
the world 1st  
sheep-derived  
collagen*



Australia is certified by the United States Department of Agriculture as the only nation with disease free sheep. Australia is a large continent that is geographically isolated. Australian sheep that have been effectively quarantined from every known disease.

Our sheep skin source is certified Australian and hence, disease free.



### Why Sheep is The BEST?

- 1. Genetically closest**
  - high acceptance
  - lowest allergy response
- 2. Warm blooded**
  - better fits with our physical make-up
- 3. Acceptable to all**
  - no cultural and religion issues
  - Halal
- 4. Traceable**
  - highly traceable as compared to fish and birds
- 5. Larger yield**
  - better cost



## How is OVINEX™ Used?

- Functional food and beverages
- Dietary supplements
- Nutritional bars
- Nutraceutical products
- Cosmeceutical products



## Application of OVINEX™

### • Joint & Bone Health

OVINEX™ promotes regeneration of joints, pain and stiff joints. Collagen collects around cartilage and this can help keep connective tissue in joints strong and flexible. In bones, collagen can assist with bone density. It promotes the growth of cells that build bone. This makes bones stronger and can help fight osteoporosis and osteoarthritis.

### • Beauty Enhancing

OVINEX™ is believed to provide skin rejuvenation. It assists with the strength and elasticity of the skin. As collagen naturally depletes in the skin, it causes sagging and wrinkles. By replenishing lost collagen, skin can stay firm and appear more youthful and healthier.

## Why The Global Collagen Market is Growing?

We lose collagen when we are injured or suffer burns. That is why collagen is used medically and therapeutically in hospitals. The good news is most mammals collagen are very similar, up to 98 percent and we can replace lost collagen by oral intake and direct application in cosmetic surgery and wound centre use.



Thus, in response to the booming of anti-aging market, consumption of collagen continues to grow. Mammalian collagen is the best and sheep is the most acceptable source given that there are no religious and cultural issues linked to its use.

