Elastin Peptide

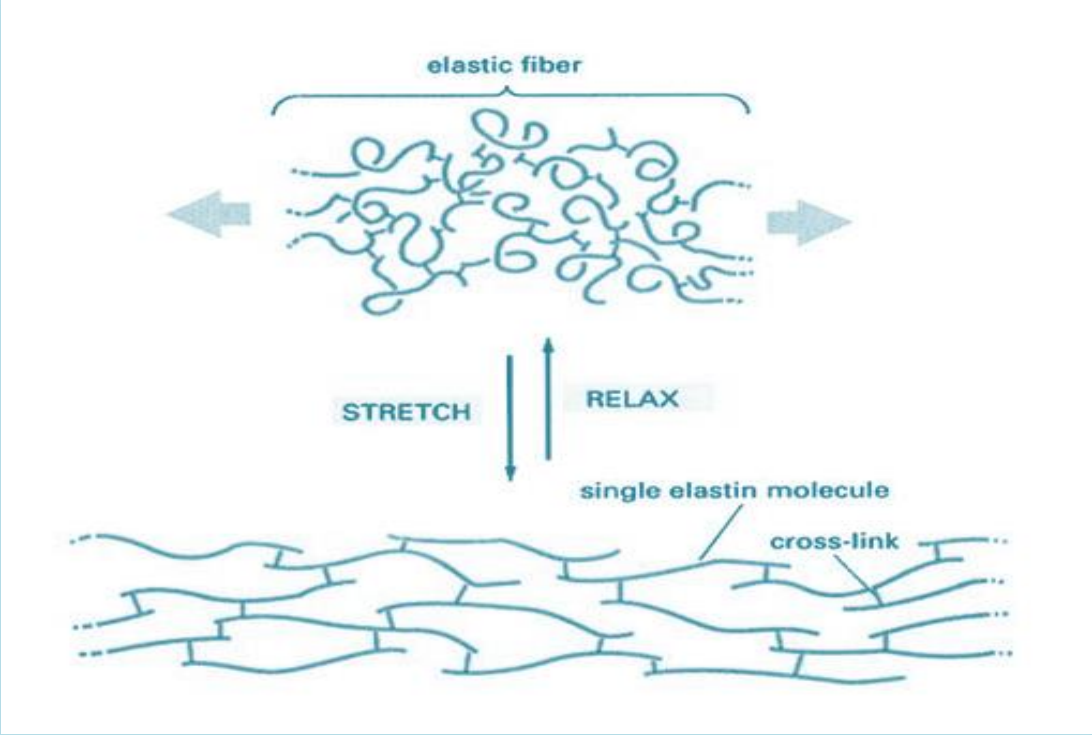
VASTNESS BIOTECH CO.,LTD

Elastin Peptide Description

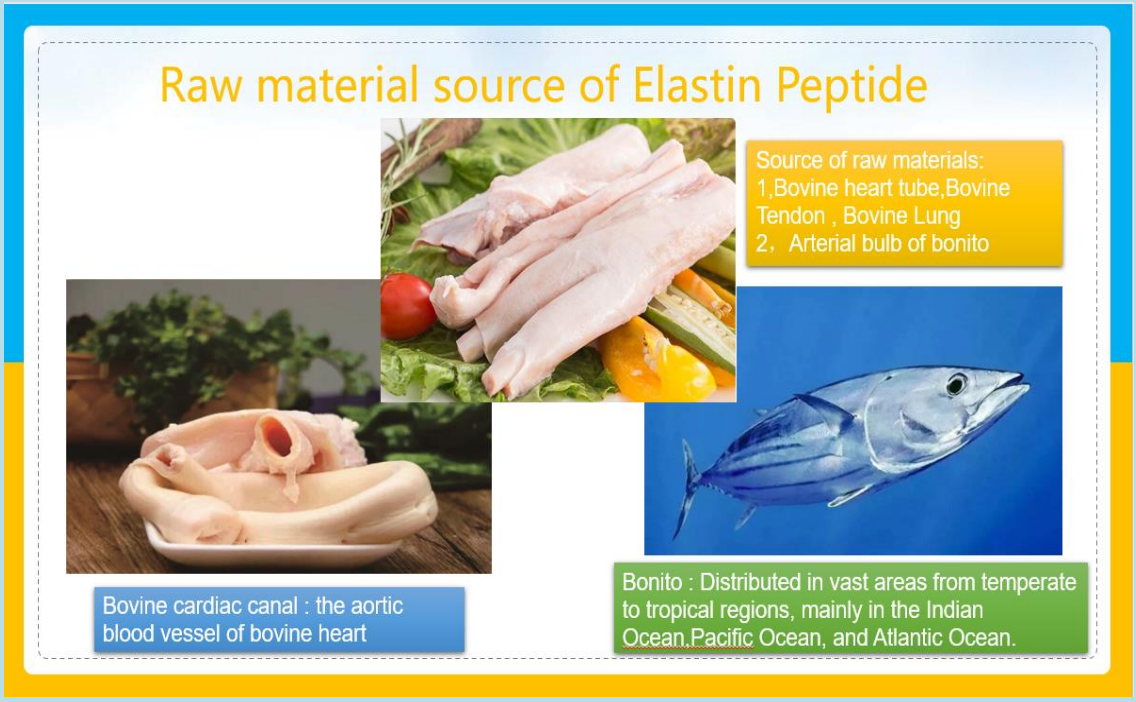
Elastin is the main component of Elastic fiber. Elastic fiber mainly exist in ligaments and vascular walls. Elastic fiber coexist with collagen fibers, which endow tissues with elasticity and tensile strength.

Elastin is the main component of Elastic fiber in rawhide tissue. The peptide chain of Elastin contains more than 713 amino acid residues. Unlike collagen and Keratin, the amino acid sequence of Elastin does not have a continuous repetitive periodic structure throughout the entire peptide chain, but there are alternate hydrophobic and hydrophilic skin segments. Desmosine and open chain Desmosine formed by oxidized lysine are the unique cross-linking structures of Elastin. These cross-linked structural lattices are combined with two or more team dimensions.

Elastin constitutes Elastic fiber. Elastic fiber is a rubber like elastic fiber, which can be stretched several times and recovered. It is the main factor of connective tissue elasticity, so it has the reputation of 'human rubber'. Elastic fiber coexist with collagen fibers, which endow tissues with elasticity and tensile strength. Elastin is not widely distributed as collagen, but it also exists in a large number of tissues, such as elastic tissues, lungs, arteries, some ligaments, skin and ear cartilage.



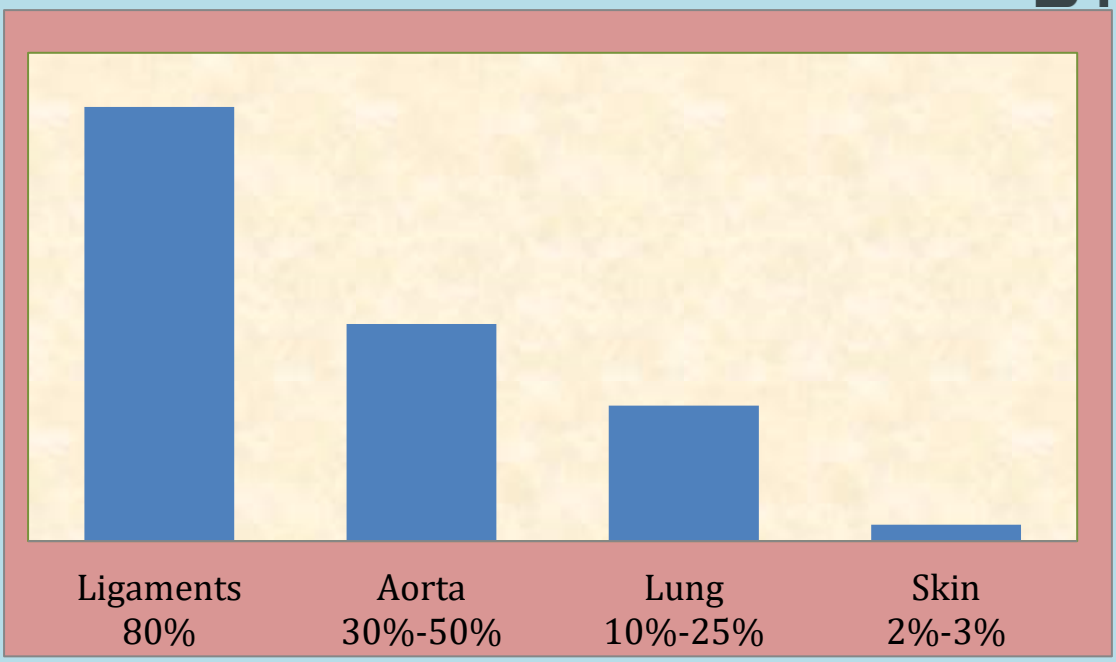
Main Source Of Elastin Peptide



Distribution of Elastin in vivo

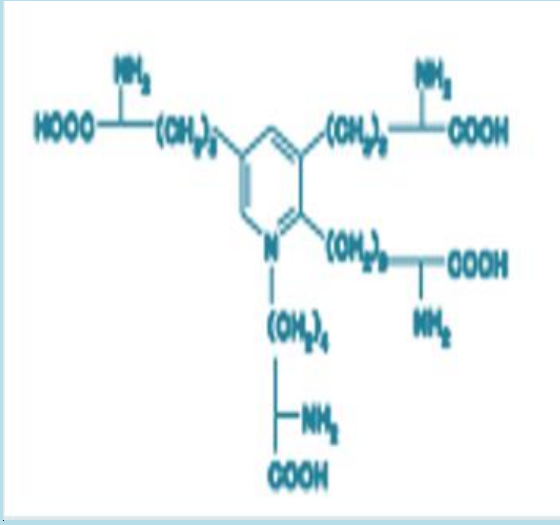
Example of relative content of Elastin in specific tissues:

Ligaments: The content of Elastin in ligaments accounts for about 80% of the total protein.
Aorta: The content of Elastin in the aorta accounts for 30% -50% of the total protein.
Lung: The content of Elastin in lung tissue accounts for 10% -25% of the total protein.
Skin: The content of Elastin in the skin accounts for 2% -3% of the total protein.

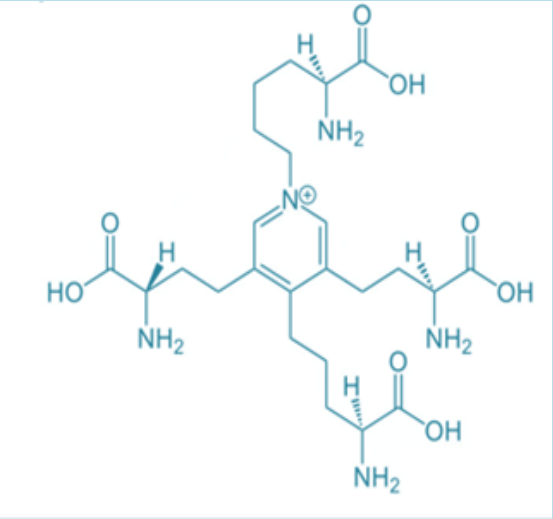


Characteristic ingredients of Elastin

During the synthesis of Elastin, the unique amino acids Desmosine and Isodesmosine that only exist in Elastin are cross-linked, and their existence is the main reason for the multi-directional scalability of Elastin nets.



Desmosine



Isodesmosine

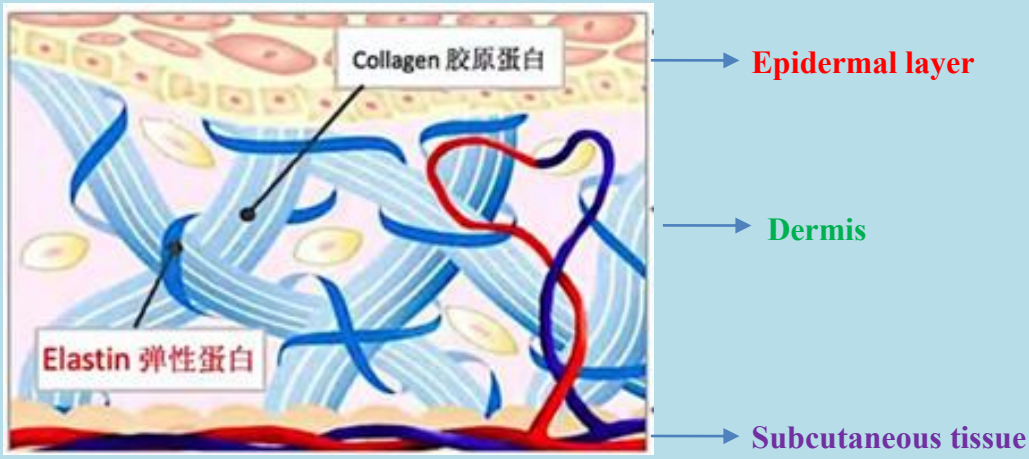
The Differences between Elastin and collagen

Item	Elastin	collagen
Encoding genes	One	Different α different gene codes in the chain
Hydroxylysine	Excluding	Contain
hydroxyproline	Low(1%)	High(10%)
glycoprotein	Cannot glycosylate	Can glycosylate
Repetitive sequence	ContainX-G-X-X-P-G	G-X-Y
Superhelix	Nothing	Have
Effect	Provide ductility and resilience	Provide resistance and support

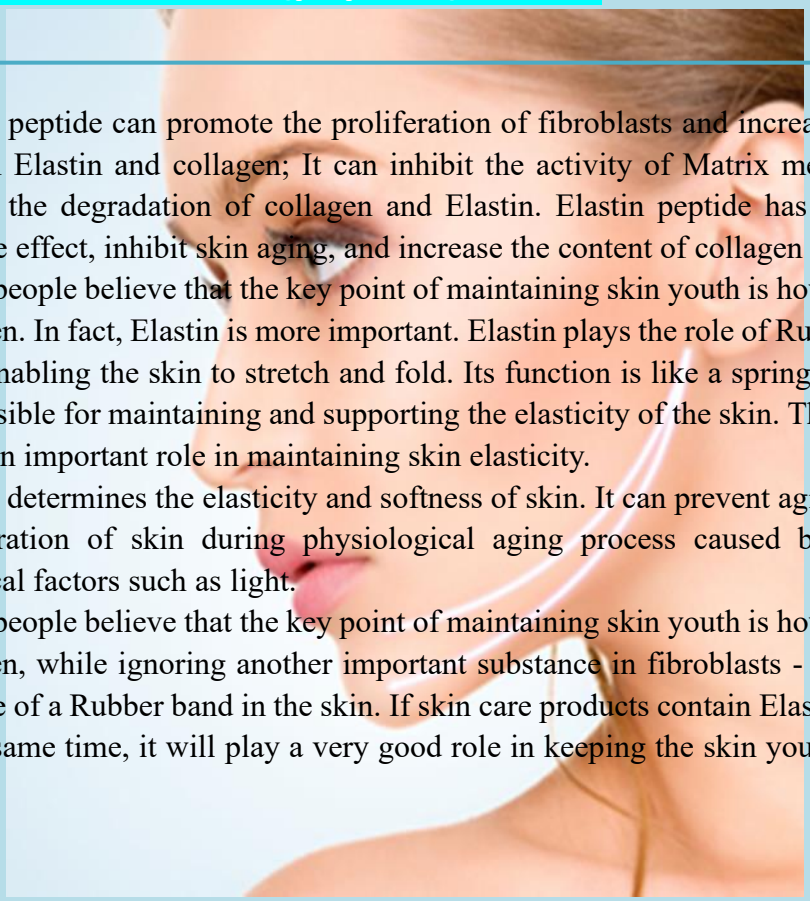
Function of Elastin (peptide)

- **Give the tissue elasticity** : Elastic fiber interweaves with collagen to limit its over stretching and prevent tissue tearing.

- **It is related to tissue aging and pathological process** : the production of Elastin in the tissues of the elderly is reduced and the degradation is increased, making the local elasticity reduced.



The role of Elastin (peptide) in skin



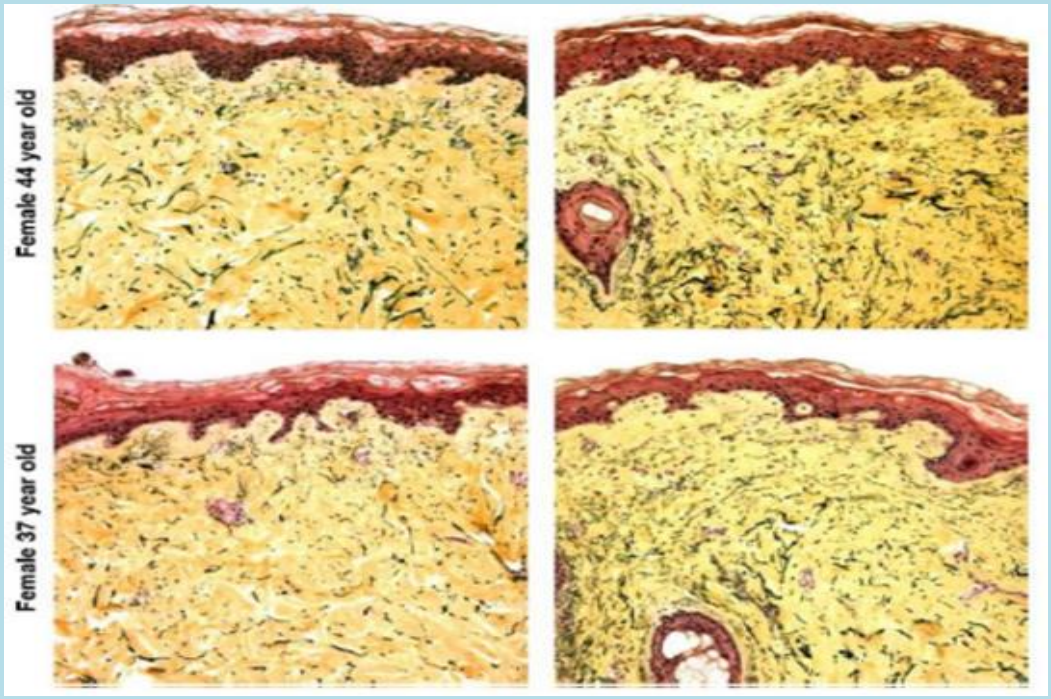
Elastin peptide can promote the proliferation of fibroblasts and increase the secretion of skin Elastin and collagen; It can inhibit the activity of Matrix metalloproteinase, reduce the degradation of collagen and Elastin. Elastin peptide has significant anti wrinkle effect, inhibit skin aging, and increase the content of collagen in the skin.

Many people believe that the key point of maintaining skin youth is how to supplement collagen. In fact, Elastin is more important. Elastin plays the role of Rubber band in the skin, enabling the skin to stretch and fold. Its function is like a spring in the mattress, responsible for maintaining and supporting the elasticity of the skin. Therefore, Elastin plays an important role in maintaining skin elasticity.

Elastin determines the elasticity and softness of skin. It can prevent aging and promote regeneration of skin during physiological aging process caused by physical and chemical factors such as light.

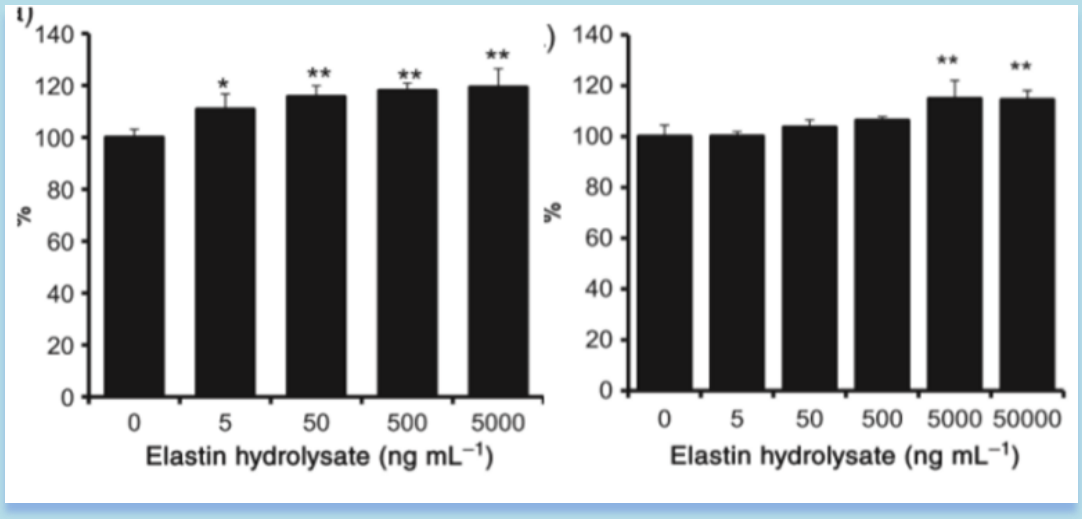
Many people believe that the key point of maintaining skin youth is how to supplement collagen, while ignoring another important substance in fibroblasts - Elastin. It plays the role of a Rubber band in the skin. If skin care products contain Elastin and collagen at the same time, it will play a very good role in keeping the skin young, delicate and elastic.

control group **Elastin peptide group**



Picture source：Journal of Dermatological Science,2005,39(3):155-166

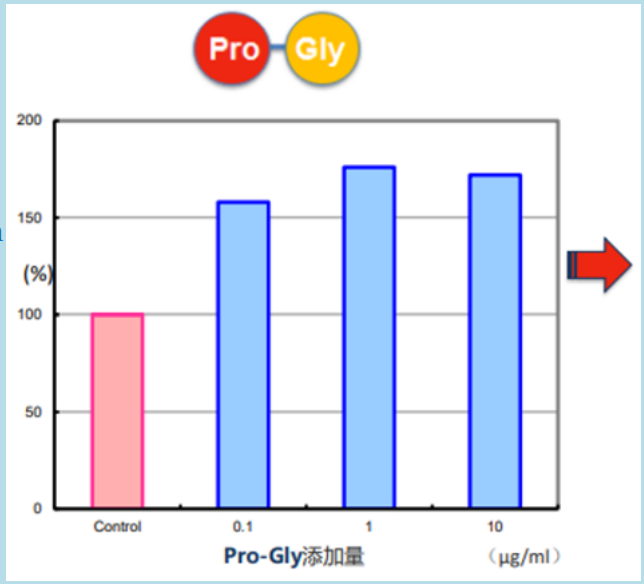
Role of Elastin peptide



Promoting effect of Elastin peptide on fibroblast growth

Promoting effect of Elastin peptide on Elastin synthesis

Production Of Elastin（relative Value）



Pro-Gly can promote the production of Elastin in dermal fibroblasts.

Data sources：Journal of Agricultural and Food Chemistry,2012,60,5128-5133

Literature on the effect of Elastin peptide on skin

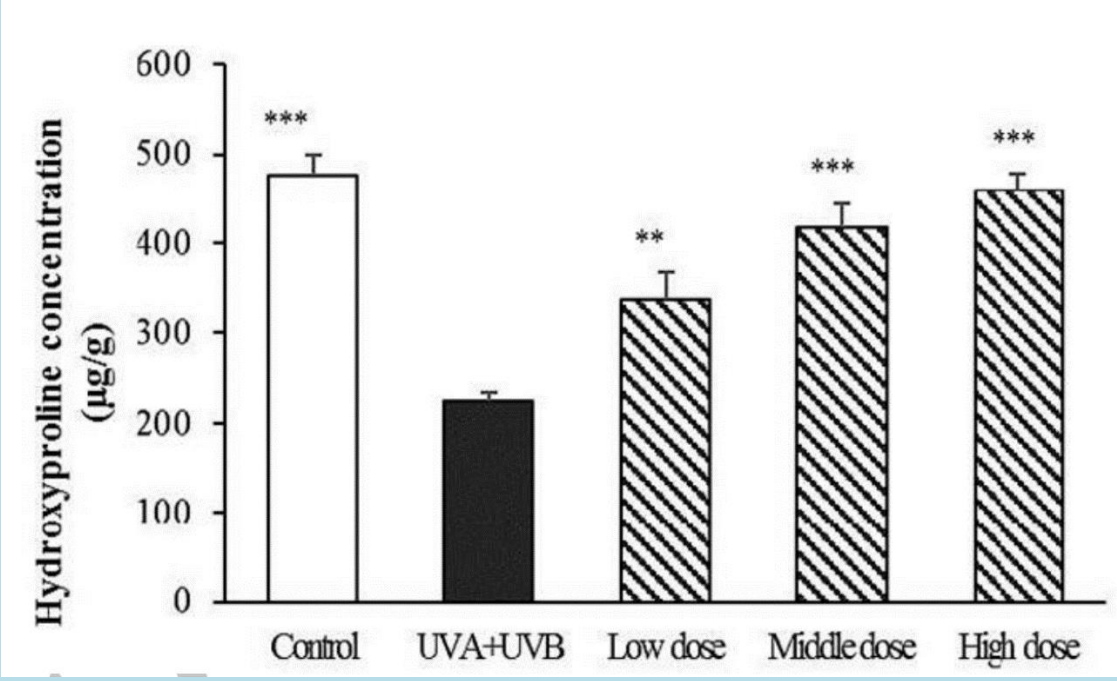
The Oral Administration of Elastin Peptide Reduces Ultraviolet Light-Induced Photoaging in Hairless Mice.----- Pakistan J. Zool., pp 1-8, 2021. DOI: https://dx.doi.org/10.17582/journal.pjz/20200629020649

ABSTRACT:Ultraviolet (UV) radiation in sunlight is the main exogenous factor leading to skin aging. The prevention and repair of UV induced skin aging has become a significant research focus over recent years. To investigate the protective effects of the oral administration of elastin peptide on photoaged skin, BALB/C Nude mice were exposed to UVA+UVB for 16 weeks to establish the photoaging model. The concentrations of elastin peptide given to the low, medium, and high dose groups were 1.5, 5.0 and 10 mg/animal per day, respectively. Then, skin elasticity was measured using a cutimeter dual MPA 580.

The concentraions of three type of collagens, hyaluronic acid and hydroxyproline in skin tissue were also determined. The results indicated that the oral administration of elastin peptide greatly improved the skin elasticity, accompanying with significantly upregulated expression of hyaluronic acid and hydroxyproline. In addition, the contents of collagen in animal skin were also significantly increased, especially Type III and IV collagen. However, the effects induced by elastin peptide did not show a doseresponse relationship. In conclusion, the results implied that elastin peptide can significantly promote the recovery of collagen in photoaging skin to normal levels, and repair skin aging induced by UVA + UVB treatment

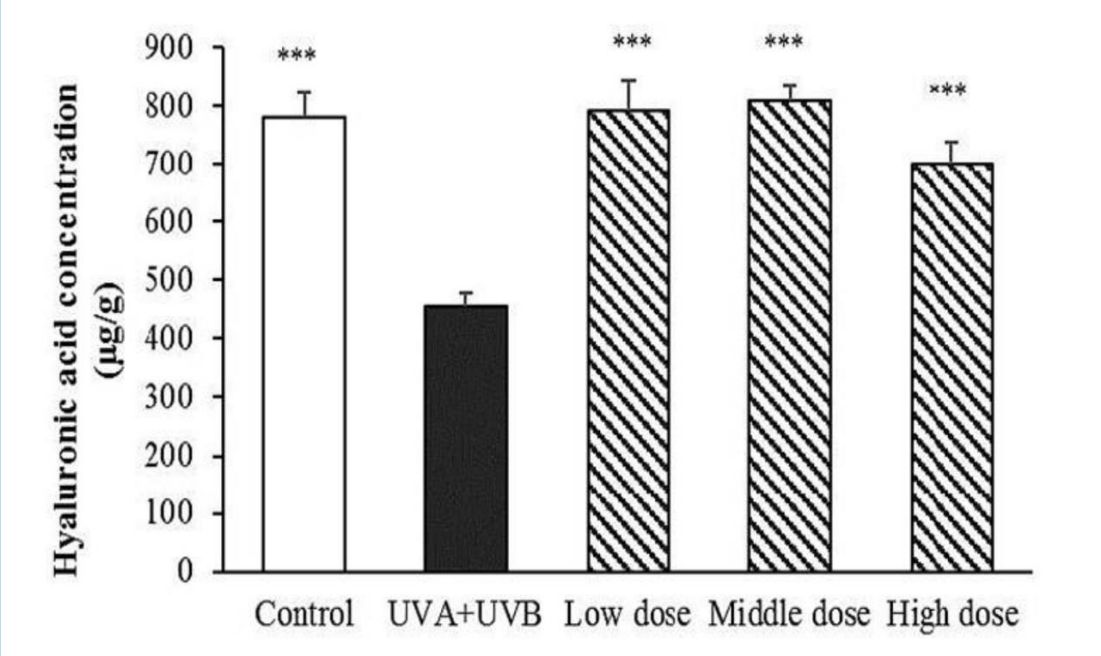
Effect of elastin peptide on hydroxyproline (Hyp)

Content of skin of UV induced photoaging hairless mice.
For comparisons between UV-irradiated controls and experimental groups.



Effect of elastin peptide on hyaluronic acid (HA)

Content of skin of UV induced photoaging hairless mice.
For comparisons between UV-irradiated controls and experimental groups.



Our present data indicated that the oral administration of elastin peptide greatly improved the skin elasticity, accompanying with significantly upregulated expression of hyaluronic acid and hydroxyproline. In addition, the intake of elastin peptide significantly increase the concentration of collagen protein in the skin, especially Type III and IV collagen. Even a small amount of elastin peptide can repair the degradation of collagen and hyaluronic acid caused by UV irradiation.

Notice:The molecular weight of Elastin peptide is smaller than that of Elastin, so it can be absorbed better.

Please reach out to us if you need the product of Elastin Peptide

Vastness Biotech Co.,Ltd

Address: Room 3104, Unit 1, Building 4, No. 11

Pukou Avenue, Nanjing Zone, Jiangsu Free Trade Zone, China

Tel: +86(0)25 58889303

Website: https://www.sy-vastness.com