

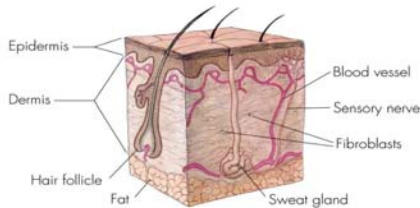


# Nutricosmetics in action: Anti-aging peptides from chicken skin

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## Background

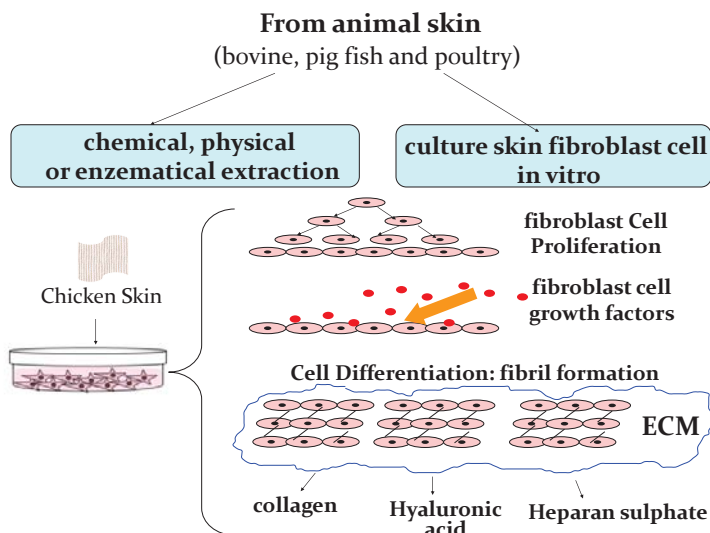
- Skin firmness, elasticity and hydration levels gradually lost with age.
- These changes originate in the dermis and correspond to a decrease in the ability of cells, particularly the fibroblasts, to regenerate the molecules which make up the extracellular matrix.



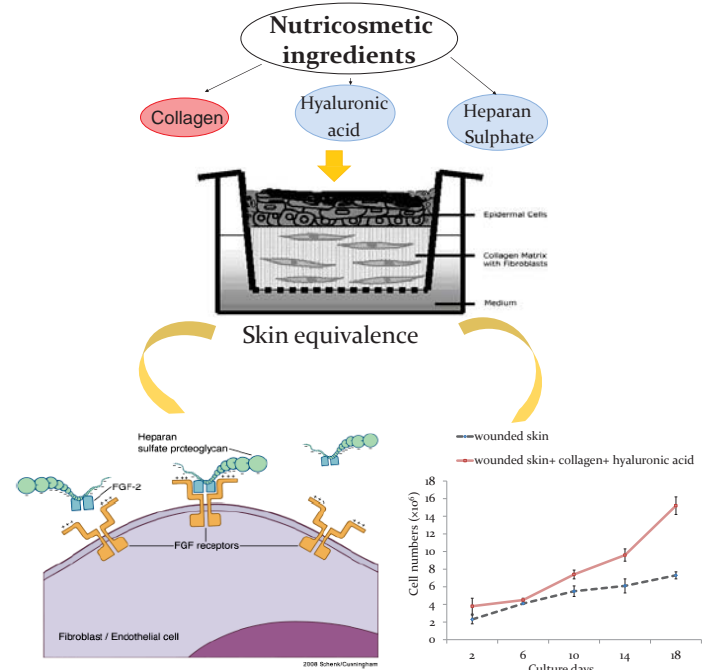
- **Fibroblast**, most commonly found cell in skin, is responsible for synthesizes the extracellular matrix (ECM) and collagen.
- Cosmetic Science has used many protein hydrolysates in order to fight skin ageing problems.
- Bioactive compounds secreted by the fibroblast cells such as fibrous proteins (collagen and elastin) and glycosaminoglycans (GAGs), were found to have positive effects in skin rejuvenation and skin cell rehydration.

- **Collagen peptides:** stimulate the skin regeneration
- **Hyaluronic acid:** non-sulfated GAGs, one of the most hydrophilic (water-loving) molecules and are used as "natural" moisturizer in skin-care products
- **Heparan Sulphate:** the most biologically active GAG and is central regulatory element in wound healing due to its influences on collagen fiber formation and tissue repair

## Source of bioactive compounds



## The effects of anti-aging compounds



## What Does this mean?

- Nutricosmetics refers to nutritional supplements which are found to have beneficial effects on the function and structure of the skin.
- Heparan sulfate acts as a binding agent for the basic fibroblast growth factor (FGF-2) to the skin cell during wound healing process.
- Studies showed that the GAGs such as heparan sulphate from the extracellular matrix are responsible for binding the cytokines, which play important roles during wound healing, inflammation and skin regeneration
- Collagen peptide and hyaluronic acid act as stimulators for increasing skin cell growth.
- Chicken skin could be a new source of anti-aging compounds for nutricosmetic use

## Acknowledgments



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