

Peptides in Skincare

What Are Peptides?

Peptides are short chains of amino acids that act as building blocks for proteins such as collagen, elastin, and keratin, which are essential for skin structure and resilience. Peptides serve as messengers, signalling skin cells to perform specific functions such as repairing damage or boosting collagen synthesis.

Types of Peptides and Their Actions

Signal Peptides:

Function: Stimulate skin cells to produce collagen, elastin, and other structural proteins.

Example: Palmitoyl Tripeptide-1 (Matrixyl 3000).

Action: Reduces the appearance of wrinkles and improves skin elasticity.

Carrier Peptides:

Function: Deliver trace elements like copper to the skin, which are essential for healing and repair.

Example: Copper Peptides.

Action: Enhances wound healing, improves skin regeneration, and boosts collagen production.

Enzyme-Inhibitor Peptides:

Function: Inhibit enzymes that break down collagen and elastin in the skin.

Example: Soy-derived peptides.

Action: Slows the ageing process by preserving the skin's structural integrity.

Neurotransmitter-Inhibitor Peptides:

Function: Block signals that cause muscle contraction, mimicking the effects of Botox.

Example: Acetyl Hexapeptide-8 (Argireline).

Action: Reduces dynamic wrinkles and expression lines.

Key Ingredients:

- Matrixyl 3000: Reduces fine lines and wrinkles, promotes collagen production.
- Copper Tripeptide-1: Aids in healing, reduces inflammation, and stimulates collagen.
- Argireline: Targets dynamic wrinkles by relaxing facial muscles.
- Palmitoyl Pentapeptide-4: Improves skin firmness and elasticity.

Benefits:

- Improves skin texture and tone.
- Reduces the appearance of fine lines and wrinkles.
- Promotes skin barrier repair and hydration.
- Enhances skin resilience and elasticity.

Growth Factors in Skincare

What Are Growth Factors?

Growth factors are naturally occurring proteins that regulate cellular processes such as proliferation, differentiation, and repair. In skincare, they are used to stimulate skin regeneration, boost collagen production, and improve the overall appearance of ageing or damaged skin.

Sources of Growth Factors:

Human-Derived Growth Factors:

Obtained from human cells (e.g., fibroblasts, keratinocytes).

Examples: Epidermal Growth Factor (EGF), Fibroblast Growth Factor (FGF).

Plant-Derived Growth Factors:

Extracted from plants and engineered to mimic human growth factors.

Examples: Barley EGF, plant stem cell extracts.

Synthetic Growth Factors:

Laboratory-engineered proteins that replicate the structure and function of natural growth factors.

Types of Growth Factors and Their Actions:

Epidermal Growth Factor (EGF):

Function: Stimulates cell renewal and wound healing.

Action: Improves skin texture, hydration, and elasticity.

Fibroblast Growth Factor (FGF):

Function: Promotes the production of collagen and elastin.

Action: Reduces fine lines, firms the skin, and enhances wound healing.

Keratinocyte Growth Factor (KGF):

Function: Supports the regeneration of the epidermis.

Action: Strengthens the skin barrier and promotes hydration.

Platelet-Derived Growth Factor (PDGF):

Function: Encourages the repair of damaged tissue.

Action: Improves the appearance of scars and damaged skin.

Key Ingredients:

- EGF (Epidermal Growth Factor): Speeds up cell turnover and repair.
- TGF- β (Transforming Growth Factor-Beta): Boosts collagen production and improves elasticity.
- Plant Stem Cells: Mimic growth factors and provide antioxidant benefits.

Benefits:

- Accelerates wound healing and skin regeneration.
- Reduces the appearance of fine lines and wrinkles.
- Enhances skin elasticity and firmness.
- Improves texture, tone, and overall radiance.

Comparison: Peptides vs. Growth Factors

Feature	Peptides	Growth Factors
Source	Synthetic or naturally derived from amino acids.	Human cells, plants, or synthetic engineering.
Mechanism	Signal skin cells to perform specific functions.	Stimulate cell growth, repair, and regeneration.
Primary Function	Collagen production, hydration, muscle relaxation.	Skin renewal, repair, and regeneration.
Suitability	Suitable for all skin types, including sensitive skin.	Ideal for ageing, damaged, or post-procedure skin.
Onset of Results	Gradual improvement over weeks of consistent use.	May show faster results, especially for repair.

Key Considerations When Using Peptides and Growth Factors

Skin Type:

Peptides are generally suitable for all skin types and are less likely to cause irritation.

Growth factors may be more beneficial for mature or damaged skin.

Formulation:

These ingredients are sensitive to heat and light, so opt for products in airless, opaque packaging.

Combination Use:

Peptides and growth factors can often be combined in a routine for synergistic effects, such as pairing peptides with growth factors for anti-ageing benefits.