Power Peptides in Skin Care
Booklet
IDI From the Beginning

IDI: Setting the Gold Standard for Professional Success

For over 25 years, The International Dermal Institute has pushed the skin care industry envelope to its limits, literally redefining professional excellence and offering skin therapists a unique opportunity to reach their personal best in the process. We do it by offering the most challenging and rewarding postgraduate skin and body therapy curriculum available anywhere today, with 38 postgraduate Training Centers worldwide; 18 of which are located in the U.S.

What we offer our students goes far beyond technical training and access to expertise you won’t find anywhere else. Our mission is to stay in touch with that original sense of “electricity” – the feeling of connecting with destiny, and creating your own future with your own heart, mind and hands. A postgraduate skin care education at The International Dermal Institute offers that connection literally around the world, and gives students their own opportunity to get “plugged in” as part of a uniquely rewarding profession which thrives on human touch and communication.

This charge to be the best in postgraduate skin care is led by Jane Wurwand, a professional skin therapist. Since founding IDI in 1983, she’s continually carried an urgent message to skin therapists: education is the key to improving every aspect of your business, from understanding galvanic current to creating a seamless booking system!

IDI is at the forefront of the evolution of skin care, elevating the respect and success of the skin care industry and the professional skin therapist around the world. Today the industry is just as competitive, and IDI maintains the international gold standard for postgraduate skin and body therapy training. Stand tall as a member of The International Dermal Institute’s worldwide student body committed to professionalism, and having the best hands in the business!

Continuing with our legacy of innovation, we are supporting FITE, Financial Independence Through Entrepreneurship, a global platform to fund women worldwide into their own business to create sustainable income. From one woman to another, one entrepreneur to another, we can evoke a positive change. Learn how you can get involved at joinFITE.org.
Rise of Peptides in Skin Care

The potential for bioactive peptide ingredients in skin care products is enormous, especially when you consider the diverse assortment of molecules available to the cosmetic formulator today. In the past decade we have seen the use of peptides increase every year. While they were first introduced in cosmeceuticals to fight the signs of aging skin, you can now find them in products to treat hyperpigmentation, as well as, in products formulated specifically for sensitive skin.

Peptides are small fragments of protein molecules.

- When only a few amino acids are grouped together we get a smaller molecule known as a peptide
- Peptides are chains of at least 2 amino acids linked by a peptide bond
- When there are less than 20 amino acids we often refer to that peptide as an oligopeptide
- When more than 20, but less than 100 amino acids, are linked together it is called a polypeptide
- Proteins are long chains of amino acids that can reach 1000 or more links. Collagen in our skin is an example of a protein of this size

When several amino acids with a defined sequence and structure are combined in the laboratory, the end-result can be a peptide chain with specific biological activity.

For example, a peptide fragment made up of three amino acids, GLY-HIS-LYS exhibits wound healing properties. When we flip the HIS and GLY order we now get a peptide that has lipo-lytic, or lipid breakdown, properties rather than wound healing effects.

So How Do Peptides Function In The Skin?

- They act as chemical messengers
- We often refer to them as signal peptides, because they tell cells what to do
- Of all the potential commands, the area most studied by scientists is that of signaling fibroblasts to make collagen
- Peptides have enormous potential in anti-aging skin care, helping to control melanogenesis, helping to fight glycation and even desensitizing the skin
**How do these small peptide fragments illicit a signal?**
The amino acids making up the peptide often mimic a portion of a larger protein, sometimes referred to as a hormone or a growth factor, that may be responsible for triggering a biochemical pathway in the cells. The synthetic peptide molecule binds to receptors in the cells, in a lock and key type of model, triggering the same biochemical reaction to occur. That’s how a synthetic peptide molecule can trigger collagen synthesis in the fibroblast cell of the dermis.

**How Are Peptides Named?**
There are two parts of a peptide’s name to consider. We will use Palmitoyl pentapeptide as an example.

First, let’s look at the peptide portion of the molecule. That would be **pentapeptide** for Palmitoyl pentapeptide. The numerical prefix **penta** refers to 5, therefore indicating 5 amino acids that make up the peptide. But that doesn’t mean 5 different amino acids. There are actually 3 different amino acids, two of which are used twice.

Now let’s look at the first part of the name. The **Palmitoyl** refers to a fatty acid, Palmitic acid in this case, that is attached to the peptide to help get it into the skin. If we were to put the peptide by itself on the skin, the barrier lipid layer would most likely prevent it from penetrating. By adding the fatty acid we make it more lipid-loving so it can penetrate through the barrier lipid layer.

**Age Fighting Peptides**
Let’s continue with Palmitoyl pentapeptide, how does this peptide function? Palmitoyl pentapeptide acts as a messenger, signaling fibroblasts to make collagen and glycosaminoglycans (GAGs). Studies have shown that Collagen I, the wrinkle fighting collagen, was increased by 117% and Collagen IV, the anti-sagging collagen, was increased by 357%. GAGs that keep the dermis hydrated and supple increased by 267%. The end result was: a 27% decrease in wrinkle depth, a 13% reduction in skin roughness and a 36% reduction in wrinkle volume. These findings were reported by Dr. Revuz at the 20th World Congress in Dermatology.

Sometimes the combination of two peptides can yield optimal results. For example, **Palmitoyl Oligopeptide** and **Palmitoyl Tetrapeptide-7** work synergistically and act as a cell messenger to stimulate the wound healing process, which includes collagen
synthesis. The results of a clinical study indicated a: 37% reduction in density of wrinkles, 14% reduction in skin roughness and 15% reduction in wrinkle depth when this peptide complex was used.

Other examples of age fighting peptides are: Palmitoyl tripeptide-5, Hexapeptide-11, Palmitoyl tripeptide-34, Palmitoyl hexapeptide-14 and Dipeptide-2.

Specialty Peptides for Other Conditions

Peptides are not just for fighting aging skin. They can be used for sensitive skin and to help fight pigmentation. The opportunities are endless provided credible scientific research substantiates the claims associated with these peptides.

• **ARG-LYS Polypeptide:** This latter peptide acts as sugar traps to help control glycation, a natural process that occurs in living tissue when protein molecules such as collagen, react with a sugar molecule. The result of this glycation reaction is inflammation and collagen cross linking associated with prematurely aging skin. Peptides such as ARG-LYS Polypeptide bind to free sugar molecules helping to control the glycation process.

• **Oligopeptide-34 and Oligopeptide 51:** There are also peptides that can help control melanin formation. Oligopeptide-34 and a newer molecule, Oligopeptide-51 are two of the most effective peptides that inhibit melanogenesis and are used in products to treat hyperpigmentation.

• **Acetyl Tetrapeptide-15:** A peptide molecule that helps control inflammatory mediators. Acetyl Tetrapeptide-15 is used in cosmeceuticals to help control skin sensitivity. When used in a product that is topically applied to the skin it makes highly reactive skin less reactive, which makes it great for use in products for sensitized, inflamed skin.

• **Argireline:** There is another class of peptides being used in skin care that claim to function in the same way that Botox does in the skin. These wrinkle relaxers are referred to as Argireline, SNAP-8 and Acetyl Hexapeptide-3. Without going into too much detail here, suffice it to say that topical application of peptides for targeted sites such as the deep nerve-muscle interface to address contractions of muscles has not been scientifically substantiated in real living tissue.
# Products Containing Peptides

The Dermalogica system of products is researched and developed by The International Dermal Institute that utilized peptides to treat a myriad of conditions. To learn about these products, click [here](#) to view an extensive list of the many of the peptides used by Dermalogica and the products in which they can be found. If you would like to find out more about carrying Dermalogica in your treatment center, please click [here](#).

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<th>Peptide:</th>
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<td>AGE Smart® Complex; Antioxidant HydraMist; Renewal Lip Complex; Dynamic Skin Recovery SPF30; Age Reversal Eye Complex</td>
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<td>Oligopeptide-34</td>
<td>C-12 Concentrate; Pure Light SPF30; Pure Night; ChromaWhite TRx® Complex</td>
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<td>AGE Smart® Complex; Super Rich Repair; Age Reversal Eye Complex</td>
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<td>Soy Protein</td>
<td>AGE Smart® Complex; Shine Therapy Shampoo; Power Rich™; SkinPerfect Primer SPF30</td>
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<td>Hydrolyzed Wheat Protein</td>
<td>AGE Smart® Complex; Body Microfoliant®; Daily Microfoliant®; Extra Firming Booster; Power Recovery® Pack; Power Rich™; Silk Finish Conditioner; UltraCalming™ Cleanser</td>
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<tr>
<td>Palmitoyl Dipeptide-5</td>
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<td>Palmitoyl Dipeptide-5 diaminobutyroyl hydroxythreonine</td>
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