



When used in professional skin care, peptides can obliterate fine lines, dark spots and other signs of aging.

Wrinkle Erasers

By Andrea Moret

WHAT IF CLIENTS NO LONGER NEEDED NEEDLES to relax deep wrinkles, but could smooth on a cream instead? What if scientists could treat antibiotic-resistant acne, enhance hair growth or fill in lines over the long term with mineral-based makeup?

That day has finally arrived. The latest advanced peptides may be small in stature, but they're capable of producing big changes in clients' skin.

Peptides 101

Found in nature but enhanced in the lab, peptides are small protein fragments formed by joining two or more amino acids. The shorter the chain, the greater potential these molecules have to penetrate the dermal-epidermal junction and go to work on synthesizing collagen and elastin, repairing damaged DNA, easing fine lines and lightening the appearance of pigmentation.

"When skin is damaged, the bad connection between the epidermis and dermis can affect the flow of nutrition and water, and make it look dull," says Karoline Kanani, marketing director for G.M. Collin (gmcollin.com).

Enter peptides. They act as messengers, transporting vital data to skin cells and sending signals to ensure their proper nourishment and repair. When collagen is in short supply, these couriers detect and stimulate its synthesis. If elastin is weak or damaged, peptides send the message to repair the protein and help restore elasticity to the skin.

“By targeting the junction between the epidermis and dermis, we can address one of the first layers of the skin that flattens and degrades with aging,” Kanani says.

Topical application of peptides, such as those found in professional skin care, produce results in a less invasive manner than injectables. In addition, they’re nonirritating and can have profound long-term effects. “That’s what I like about peptides. They don’t aggravate the skin; they restore it,” Kanani says.

Potent Proteins

Clients come to the day spa to treat a multitude of skincare concerns. Rarely can one ingredient tackle them all. However, peptides are being implemented into products targeted for all skin types—even the most sensitive. It’s no wonder experts in the industry are calling them miracle workers.

“The appeal of peptides is universal,” says

Gül Zone, president and biochemist founder of DermAware (www.dermaware.com). “They can be used on anybody. They don’t cause peeling, which AHAs do, or result in sensitivity and redness—side effects of retinoids.”

Plus, manufacturers can easily incorporate them into formulations, Zone says. And it doesn’t take much for these miniscule dynamos to exert their influence. “Products containing peptides are formulated to contain up to five parts per million of the active ingredient,” says Vivian Valenty, Ph.D., president and founder of VB Cosmetics (www.vbcosmetics.com).

The first synthesized peptide emerged in 1975 as the labor-inducing drug oxytocin. As science advanced, skincare manufacturers started using substances such as hydrolyzed wheat proteins and beta glucan for their conditioning benefits to the hair and skin. Then, scientists realized that it wasn’t the proteins so much as the peptide sequences that

Powerful Proteins

Help clients treat a range of skincare conditions—from aging to acne—with the latest professional peptide products.

5 Star Formulators Christina Unstress is a collection of nine products that uses the peptide collaxyl to repair collagen breakdown. **888.200.3977**, www.5starformulators.com

AminoGenesis Skin Care LashGarden uses a complex of peptides and amino acids to encourage longer, stronger lashes. **877.523.4455**, www.aminogenesis.com

Aveda Firming Eye Crème utilizes peptides from natural ingredients such as sugar cane to reduce dark under-eye circles and soften wrinkles. **800.328.0849**, www.aveda.com

B. Kamins, Chemist Diamond Radiance Illuminating Eye Cream contains the dipeptide carnosine to protect and strengthen collagen. **888.252.6467**, www.bkamins.com

Bio Jouvance Professional Bio Choice Serum reduces the appearance of fine lines and signs of premature aging with argireline, sodium hyaluronate and soluble collagen. **800.272.1716**, www.biojouvance.com

BiON Research Line Reducing Complex contains acetyl hexapeptide-3 to relax muscle contractions. It also has

essential fatty acids, topical calcium and antioxidants. **877.715.2466**, www.bion-research.com

Control Corrective Skincare Firming Tri-Peptide Serum by Universal Companies combines peptides with *Lentinula edodes* from shiitake mushrooms. **800.558.5571**, www.universalcompanies.com

Dermacel Daily Peptide Replacement Serum by Genesis Biosystems thickens the epidermis and dermis with an infusion of peptides. **888.577.7335**, www.genesisbiosystems.com

Dermalogica AGE Smart Dynamic Skin Recovery protects cells from free radicals and provides long-lasting hydration. **310.900.4000**, www.dermalogica.com

DermaQuest Skin Therapy DermaMinerals makeup features the line-smoothing peptide Dermaxyl, and natural ingredients that rebalance skin and curb inflammation. **800.213.8100**, www.dermaquestinc.com

DermAware Aerobic Infusion Serum brightens skin with a blend of six peptides, soy and wheat protein, and raspberry and olive extracts. **888.292.DERM**, www.dermaware.com

Dermelect Cosmeceuticals Empower M6 Anti-

Wrinkle Treatment combines three powerful wrinkle-relaxing and antiaging peptides with hydrators, vitamins and skin synthesizers.

888.MY.DERMELECT, www.dermelect.com
Éminence Organic Skin Care Lip Trio utilizes fruit enzymes and peptides to refine lip skin, deeply hydrate and lock in collagen-boosting botanicals. **888.747.6342**, www.eminenceorganics.com

G.M. Collin A.G.E. Total Defence anti-aging moisturizer features eight antioxidants and five peptides that target degenerative cellular damage. **800.341.1531**, www.gmcollin.com

Guinot Liftosome has been reformulated to include pro-collagen, which energizes, tightens and firms the face and neck. **212.532.1030**, www.guinotusa.com

HydroPeptide Anti-Wrinkle Cellular Transformation Serum restores collagen with colostrums and protein-rich growth factors. Neuropeptides give a Botox-Cosmetic-like effect to relax muscles, and prevent and eradicate signs of aging. **800.932.9873**, www.hydropeptide.com

Jan Marini Skin Research Age Intervention Peptide Extreme includes four targeted peptide blends to help rebuild and revitalize any skin type. **800.347.2223**,

provided the conditioning, soothing and wound-healing effects, according to Chim Potini, Ph.D., director of operations for Hale Cosmeceuticals (www.halecosmeceuticals.com).

A major breakthrough in topical peptides came in the late 1990s. French cosmetics company Sederma (www.sederma.fr) and Procter & Gamble (www.pg.com) teamed up to launch Matrixyl, a palmitoyl pentapeptide capable of synthesizing collagen and fighting wrinkles.

Soon thereafter, Argireline made news for its ability to exert a Botox Cosmetic-like effect on wrinkles. It inhibited the neurotransmitter acetylcholine, which sends the signal to muscles that causes them to contract.

Researchers continue to make significant inroads in collagen synthesis by fine-tuning the sequencing of the 22 basic amino acids that form all peptides. They're also adding more sequences to achieve maximum results, according to Sam Dhatt, CEO of DermaQuest Skin Therapy (www.dermaquestinc.com).

"By determining the best sequences, we can see the effects these peptides cause in certain areas and decide which ones we want to use for enhancing the skin's elasticity, collagen-building

and more," says Louise Peck, Ph.D., founder of HydroPeptide (www.hydropeptide.com).

Some examples of this are palmitoyl dipeptide-5 and -6, otherwise known as Syn-Tacks. The formulation is winning raves for its ability to stimulate the proteins in collagen by margins of 60% to 190%, Peck says.

Other peptides, such as Syn-Glycan, help restore the glycosaminoglycan hyaluronic acid content in the dermis. They also boost levels of the proteins decorin and lumican, which strengthen collagen.

In addition, newly advanced peptides that treat acne are gaining more attention. They include oligopeptide-10 (HB-64), which kills *P. acnes* bacteria by binding to its negatively charged surface elements and securing access to the cell membrane. "By using the body's own amino acids, these peptides fight the bacteria within," Dhatt says. This peptide offers further advantages by rendering the *P. acnes* bacteria all but helpless in maintaining a resistance to antibiotics while neutralizing its inflammatory components. The result is clearer, less irritated skin.

One of the newest and most exciting frontiers for peptides remains in the treatment of hyper-

Powerful Proteins *continued from page 42*

janmarini.com

Kinerase C8 Peptide Intensive Treatment

contains SNAP-8, a peptide complex that mimics the effects of Botox Cosmetic. Vitamin C and antioxidants kinetin and zeatin brighten and protect skin.

800.321.4576, www.kinerase.com

Luzern Laboratories WE3 Triple Action

Wrinkle Eraser is a corrective treatment with plant- and vegetable-derived peptides that minimize the appearance of wrinkles and boost collagen production.

888.591.7800, www.luzernlabs.com

Murad Daily Eye Lift contains a unique biopeptide that triggers the skin's natural defense mechanism, and stimulates collagen production and cell turnover.

888.686.8723, www.murad.com

Nature Pure Labs Lift Protection +SPF 20

defends and repairs skin with antioxidant botanicals, UV blockers and peptides. Pomegranate and yarrow extracts hydrate cells. 866.640.SKIN, www.naturepure.com

Prana SpaCeuticals Renewal Eye Cream by

Dermastart combats undereye darkness and puffiness with a complex of peptides, ginseng, ginko biloba, soyisoflavonoids and Japanese green tea. 866.589.2949, www.pranaspaceuticals.com

Pevonia Botanica PevoRefine Polypeptides

Freeze-Dried Treatment contains marine DNA, hyaluronic acid and peptides to moisturize, repair cells and refine skin texture. 800.PEVONIA, www.pevonia.com

Rhonda Allison Clinical Enterprises Raw

Mineral Freeze merges vitamin C with a peptide complex to lift, tone and reduce the effects of aging on the skin. 866.313.SKIN, www.rhondaallison.com

SAIAN Saphir Active Renewal Serum

contains hyaluronic acid, mineral-rich seaweed extract and six potent peptides. 800.291.1130, www.saian.net

Sanitas Skincare Anti-Aging Serum is comprised of more than 30% peptides that stimulate collagen and elastin.

888.855.8425, www.sanitas-skincare.com

SkinAgain oZ-tone Healing Serum combats fine lines and uneven tone, and boosts collagen production with palmitoyl oligopeptide and hyaluronic acid.

877.754.6769, www.skinagain.com

Skin Blends Oil Free Moisturizer contains a triple pentapeptide complex to stimulate collagen and increase skin's natural ability to renew itself. 877.754.6253, www.skinblends.com

Skin 2 Skin Care Aging Intervention Cream uses peptides to stimulate the synthesis of collagen and healthy cell production, and repair skin damage. 877.754.6790, www.skin2skincare.com

Wilma Schumann Skin Care Neck & Bust

Crème Intensiv contains hydrators, natural brightening agents, antioxidants and the peptide Argireline to lift sagging skin and boost collagen. 800.440.3032, www.wilmaschumann.com

Yon-Ka Advanced Optimizer Duo uses pure flower peptides to firm and lift skin.

pigmentation, according to Dhatt. While some manufacturers are hesitant to utilize hydroquinone, skin-lightening peptides offer a natural alternative by using amino acids that are part of the human body. “These peptides work the same as hydroquinone does,” Dhatt says. “Though while they’re protein-based, peptides pose no cancer risk.”

For more information about treating hyperpigmentation, please see “Brighter Days Ahead” on page 52.

New Applications in Antiaging

Today’s peptides not only treat aging skin, but also prevent future damage. Advanced formulations inhibit the formation of new wrinkles while smoothing those that already exist by interrupting the nerve signals that control muscle contractions. Others ward off inflammation, which is the root of all cell damage.

Because peptides mimic natural elements, sci-

entists are able to modulate the body’s chemistry to regulate these responses. For instance, palmitoyl tetrapeptides inhibit interleukin, which is associated with inflammation that can degrade the skin at the matrix level, according to Sherrie Berry, product developer for SkinAgain (www.skinagain.com). The combination of this anti-inflammatory peptide with palmitoyl oligopeptides for collagen synthesis results in a significant synergistic anti-wrinkle effect. Plus, their healing properties make peptides ideal after waxing, laser treatments and peels, according to Berry.

VB Cosmetics’ Valenty also sees antibacterial and anti-inflammatory applications playing a larger role in the future of skin care. “When peptides can have these effects, we’ll have real natural preservatives for our products,” she says.

Even plant-based peptides are gaining notice for their ability to exert a Botox Cosmetic-like effect on wrinkles, according to Berry. For example,

peptides derived from the hibiscus seed have been found to have the same muscle-relaxing effects of scientific peptides—such as Matrixyl.

But this isn't an area where organic means better. "Often, plant peptides are manufactured to mimic what the plants actually make," DermAware's Zone says. "They're not always extracted from the plants themselves. The beauty of peptide technology is that we now understand how to unlock the natural biochemical pathways to heal and repair skin. Our bodies can't distinguish between a plant-derived peptide or one that's man-made and designed exactly like those found in nature."

Cosmetic applications are another way skincare companies are introducing peptides to their clients. Eyelash and hair enhancers contain peptides that stimulate hair follicles and prolong the antigen phase of the growth cycle. And peptides such as Dermaxyl are being added to mineral makeup to enable dermal repair, improve cell communica-

tion and smooth wrinkles. They fill in fine lines temporarily and long-term, according to Dhatt.

In the future, peptides may deliver potential applications in treating various conditions such as cellulite, HIV and cancer. "Every day, we learn more about how the skin functions, and peptides are evolving to accordingly treat it," G.M. Collin's Kanani says.

"I think that peptides have found a niche in the skincare market," she adds. "They're more effective than ever before, and it doesn't look like they're going to be replaced for many years to come." ●

Andrea Moret is a Northern California-based freelance writer, specializing in the professional skincare and cosmetic industry.



Visit www.dayspamagazine.com and click on "Web Exclusive" to read more about commonly used peptides in skin care.