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APGF (Advanced Peptide Growth Factor)
(Microneedling Essentials - Dual Ampoule System for Anti-Aging)

Clinical Resolution Lab offers the most advanced recombinant protein technologies for high level protein expression. Recombinant proteins, such as cytokines and growth factors, are proven to have high efficacy and superior functions on skin cell regeneration. These proteins have been recently spotlighted as some of the most innovative and scientific cosmetic ingredients. APGF, composed of carefully screened advanced peptides and high concentrations of lyophilized human-derived growth factors, delivers flawless skin restoration that is safe and effective.

Key Ingredients and Features:

- **EGF (Epidermal Growth Factor):** Helps stimulate keratinocyte proliferation and survival, fibroblast proliferation, and collagen synthesis, while recovering wounds. In combination with other growth factors, the purity of EGF is over 95%.

- **bFGF (Basic Fibroblast Growth Factor):** Helps stimulate fibroblast and collagen synthesis. Also helps proliferate epidermal cell growth, especially in aged skin, while stimulating elastin, fibronectin, and other extracellular matrices in wrinkle recovery.

- **IGF-1 (Insulin-like Growth Factor):** Helps to stimulate cell growth and recover wounded skin, in structure and function, while stimulating ECM production.

- **Adipocyte Conditioned Media Extract:** A combination of various kinds of biologically compatible proteins, such as PDGF, bFGF, KGF, TGF-b1, VEGF, and SOD, that work towards cell proliferation and thickening of the dermal layer.

- **PGF (Placenta Growth Factor):** A member of the VEGF (vascular endothelial growth factor) sub-family - a key molecule in angiogenesis and vasculogenesis, in particular during embryogenesis. It helps stimulate epidermal cell growth, cell proliferation, and cell differentiation, while assisting collagen synthesis and wrinkle recovery.

- **Caffeoyl-sh-Octapeptide-4:** Provides strong antioxidant and anti-inflammatory benefits, also clinically proven for high efficacy in relieving atopic dermatitis.

- **sh-Decapeptide-9:** A powerful, synthetically produced neuropeptide that consists of amino acids: arginine, glycine, leucine, lysine, phenylalanine, proline, and tyrosine. It helps to improve fine lines, minimize pores, activate collagen and elastin production, promote cell density, and facilitate nutrient absorption.

- **Vitis Vinifera (Grape) Callus Culture Extract:** Protects the skin’s stem cells against UV stress, increases UV tolerance, and fights photoaging for vital and healthy-looking skin.

- **Nicotinoyl Tripeptide-1:** Nano-encapsulated solution with strong antioxidant, anti-inflammatory, and cell detoxifying benefits, which is comprised of a skin cell stimulating tripeptide (GHK) conjugated with Vitamin B3 (Nicotinoic Acid).

**Ingredients:**

- **Activator (3ml):** Water, Caffeoyl Tripeptide-1, sh-Decapeptide-9, Vitis Vinifera (Grape) Callus Culture Extract, Nicotinoyl Tripeptide-1, Caffeoyl-sh-Octapeptide-4

- **Powder (Lyophilized Powders-1000ppm):** Mimicking peptides of EGF (Epidermal Growth Factor), bFGF (Basic Fibroblast Growth Factor), IGF-1 (Insulin-like Growth Factor), Adipocyte Conditioned Media Extract, PGF (Placenta Growth Factor)

**Directions:**

Lift and pull off the clear plastic cap in the direction of the two arrows (||) embossed on the foil wrap of the vial. Both the plastic cap and foil wrapping should peel off together. Remove the rubber cap from both vials. Pour the activator into the vial containing the powder. Place the rubber cap back on, then gently turn the vial upside down, back and forth, several times to dissolve the powder. Be sure no bubbles are formed while mixing. Set aside, and let it stand for 5-10 minutes to complete the activation. Apply solution evenly on the skin. Use the solution immediately after mixing for best results.

**Storage:**

Refrigerate prior to use.

5 APPLICATIONS

5 Activating Peptides
5 Recombinant Powders

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Caffeoyl Tripeptide-1: Skin cell stimulating tripeptide (GHK) coagulated with caffeic acid, which provides strong antioxidant and anti-inflammatory benefits, while rejuvenating aged or damaged skin.

sh-Decapeptide-9: A powerful, synthetically produced neuropeptide that consists of amino acids: arginine, glycine, leucine, lysine, phenylalanine, proline, and tyrosine. It helps to improve fine lines, minimize pores, activate collagen and elastin production, promote cell density, and facilitate nutrient absorption.

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**Key Ingredients and Features:**

**TGF-beta-1 (Transforming Growth Factor-beta-1):** Helps stimulate epidermal cell growth, cell proliferation, cell differentiation, and apoptosis, thereby resulting in anti-aging, cell protection, and wound healing benefits.

**PmGF (Placenta Mimicking Growth Factor, sh-Polypeptide-16, rh-Polypeptide-4, sh-Polypeptide-22):** Comprised of Placenta Growth Factor, Stem Cell Growth Factor, and Transforming Growth Factor-beta. It stimulates epidermal cell growth, cell proliferation, collagen synthesis, wrinkle recovery, and cell differentiation.

**Adipocyte Conditioned Media Extract:** A combination of various kinds of biologically compatible proteins such as PDGF, bFGF, KGF, TGF-b1, VEGF, and SOD, that work towards cell proliferation and thickening of the dermal layer.

**Tissue Inhibitor of Metallo Proteinase (rh-Polypeptide-58):** As a natural inhibitor of the matrix metalloproteinases, it decreases collagenase activity, thereby increasing collagen and elastin in the skin, while promoting cell proliferation and anti-apoptotic function.

**Niacinamide:** A potent, cell-communicating ingredient, that stimulates microcirculation in the dermis, and offers multiple benefits for the skin. This ingredient improves skin elasticity, enhances its barrier function, helps minimize discoloration and wrinkles, and revives the skin’s healthy tone and texture. Niacinamide has a reputation for being able to treat uneven skin tone, and to mitigate acne and breakouts.

**Nelumbo Nucifera Callus Culture Extract:** A plant stem cell with excellent antioxidant and anti-inflammatory benefits, that brightens, soothes, stimulates, and regenerates the skin, as well as fight the signs of aging.

**Galloyl-Tripeptide-35:** Utilizes gallic acid (phytochemical bioactive organic acid), conjugated with alpha-ECG, which is a strong antioxidant tripeptide. It provides strong skin-lightening effects on dark under-eye circles and brown spots. It also improves skin health, while inhibiting melanin synthesis and melanin transfer, especially on darker areas of the skin.

**Decapeptide-12:** A synthetic peptide, consisting of arginine, lysine, serine, tryptophan, and tyrosine, and is the only peptide shown to measurably aid the skin in restraining tyrosinase, which is the enzyme responsible for initiating the overproduction of melanin, that leads to uneven pigmentation and dark spots.

**Vitis Vinifera (Grape) Vine Extract:** Also known as Resveratrol, it is a natural polyphenol and powerful antioxidant, that is more effective than L-Ascorbic Acid and Kojic Acid to lighten the skin.

**Superoxide Dismutase (rh-Polypeptide-60):** The most powerful intracellular antioxidant, that protects cells from free radicals and increases the cellular lifespan.

**Ingredients:**

**Activator (3ml):** Water, Niacinamide, Nelumbo Nucifera Callus Culture Extract, Galloyl-tripeptide-35, Decapeptide-12, Vitis Vinifera (Grape) Vine Extract

**Powder (Lyophilized Powders-1000ppm):** TGF-beta-1 (Transforming Growth Factor-beta-1), PmGF (Placenta Mimicking Growth Factor, sh-Polypeptide-16, rh-Polypeptide-4, sh-Polypeptide-22), Adipocyte Conditioned Media Extract, Superoxide Dismutase (rh-Polypeptide-60), Tissue Inhibitor of Metallo Proteinase (rh-Polypeptide-58)

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**Storage:**

Refrigerate prior to use.
Key Ingredients and Features:

- Provides deep hydration
- Promotes extracellular matrix renewal and cell proliferation
- Enhances collagen production
- Reduces fine lines and wrinkles
- Improves skin tone and texture
- Induces skin cell repair
- Lifts and firms by strengthening the plasma membrane of the skin cell
- Paraben-free
- Hypoallergenic and non-comedogenic

Acetyl Hexapeptide-3: Works through a unique mechanism that relaxes facial tension, leading to the reduction of superficial facial lines and wrinkles with regular use. The effects are significantly enhanced when combined with microneedling.

Matrixyl 3000: Contains messengers for cutaneous restructuration and repair. It activates the neosynthesis for extracellular matrix renewal and cell proliferation, while also lifting and firming the skin.

Pentaxyl: Possesses wound healing properties and assists in reducing wrinkles and fine lines by enhancing collagen production. It also assists in improving the vitality of protein and collagen under the skin's surface by stimulating its own regeneration process.

Sodium Hyaluronate: An acid with a weight of 1 MDa, it is one of the most effective humectants for skin healing and regeneration. It adds hydration to the skin without depending on atmospheric moisture.

Vitamin B5: Reduces water loss through the skin after microneedling. In various forms, topical vitamin B5 is beneficial in improving the moisture level and function of the skin.

DMAE: A natural substance, also known as 'a facelift in a jar', due to its amazing ability to dramatically tighten, firm, and tone neck and facial muscles, creating a leaner, more defined, and youthful look. Its ability to strengthen and stabilize the cell's plasma membrane allows it to improve even the most unresponsive areas.

EGF: Stimulates the growth of various epidermal and epithelial tissues in vivo and in vitro and of some fibroblasts in cell cultures.

Magnesium Ascorbyl Phosphate (MAP): A vitamin C derivative that has better stability than ascorbic acid. MAP is often used for: UV protection and repair, collagen production, skin lightening and brightening, and as an anti-inflammatory. It is also a potent antioxidant.

Palmitoyl Tripeptide-28: A stabilized peptide, engineered for cutaneous delivery, that is resistant to enzyme degradation. It mimics TGF-ββ by activating the transforming growth factor-ββ receptor Type II (TβRII) to activate collagen synthesis. In consequence, it reduces wrinkles by turning on the gene responsible for increasing collagen production in the skin.

- 45% reduction in wrinkles in 28 days (in vivo)
- 152% increase in Collagen I Synthesis (in vitro)
- 175% increase in Collagen III Synthesis (in vitro)
- 48% MMP-9 Inhibition (in vitro)

Ingredients: Deionized Water, Aloe Vera Gel, Acetyl Hexapeptide-3, Matrixyl 3000, EGF, Sodium Hyaluronate (Base), Vitamin B5, DMAE, Pentaxyl, Propylene Glycol, Phenoxyethanol, Magnesium Ascorbyl Phosphate, Palmitoyl Tripeptide-28, AE Protek NPB

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Caution: For professional use only. Avoid contact with eyes and mucous membranes. Discontinue use if irritation or redness develops.
Vital PS
(PIGMENT STABILIZER)
Microneedling Essential Solutions

Key Ingredients and Features:

L-Glutathione: Known as a Master Antioxidant, L-Glutathione is a tripeptide of the amino acids - glycine, cysteine, and glutamic, which are naturally produced in the body. It also acts as a toxic waste neutralizer and regulates the actions of lesser antioxidants, such as vitamin C and vitamin E, within the body. In essence, it is the body’s A.I.D. (Antioxidant, Immune Booster, and Detoxifier). L-Glutathione, in increased doses, helps brighten the skin by modifying the conversion of eumelanine (dark brown/yellow pigmentation) to phaeomelanin (reddish-white pigmentation). It is proven to be very safe and effective, therefore widely used by dermatologists.

Stabilized L-Ascorbic Acid: A powerful antioxidant, which uses a micro-delivery system to encourage collagen production, reverse photoaging, as well as lighten age spots and discoloration from scarring, sun damage, and freckles. It also helps to refine pore size and rebuilds collagen and elastin for firmer, younger looking skin. It is an essential cofactor for the synthesis of two enzymes (lysyl hydroxylase & prolyl 4-hydroxylase) - which, in turn, catalyze the production of the amino acids required in order to produce collagen, which is the primary connective tissue in the skin.

Tetrahexyldecyl Ascorbate: A very stable, oil-soluble vitamin C ester, which has antioxidant properties that inhibit lipid peroxidation. Topical use can mitigate the damaging effects of UV exposure. Studies have shown it to stimulate collagen production, while clarifying and brightening the skin by inhibiting melanogenesis (the production of pigment), to promote a more even skin tone.

Vitamin B Complex (B1, B2, B3, B5, B6, B12): Enhances the body’s immune response and brightens the skin tone.

Vitamin E (as D-Alpha Tocopherol): A fat soluble vitamin and antioxidant that helps to neutralize potentially damaging free radicals in the body. It exists in eight different forms, D-Alpha Tocopherol being the most active form and one of the most powerful biologically active antioxidants.

Calcium Ascorbate: Commercially known as Ester-C, which is a non-acidic and more stabilized form of vitamin C.

Azelaic Acid & Mulberry Extract: Highly effective skin-lightening and depigmenting agents.

Oil Soluble Licorice Extract: The ingredient that is responsible for the skin lightening aspect of the plant known as glabridin. Glabridin inhibits pigmentation by preventing tyrosinase activation. Studies have shown that it can provide considerable skin brightening effects, while remaining non-toxic to melanin forming cells.

Kojic Acid: A fungal derivative that is used extensively as a natural alternative to hydroquinone. Studies have shown that it is effective as a skin lightening agent, inhibiting the production of melanin (brown pigment).

Retinol (10,000 I.U/g): Anti-aging and skin brightening.

Alpha Arbutin: A natural skin lightening agent. It works by slowly releasing hydroquinone through hydrolysis, which in turn blocks tyrosinase activity and reduces the skin’s melanin (pigment) production.

Magnesium Ascorbyl Phosphate (MAP): A vitamin C derivative that has better stability than ascorbic acid. MAP is often used for: UV protection and repair, collagen stimulation, skin brightening and toning, and as an anti-inflammatory. It is also a potent antioxidant.

Palmaria Palmata Extract: Inhibits the synthesis of melanin and limits its migration to the skin surface, thereby controlling photo-induced pigmentation. It also helps give the skin a luminous and ultra-refined complexion.

Ingredients: Certified Organic Aloe Water, L-Glutathione, Deionized Water, Stabilized L-Ascorbic Acid, Tetrahexyldecyl Ascorbate, Vitamin B Complex (B1,B2,B3,B5,B6,B12), Vitamin E (as D-Alpha Tocopherol), Ester C Calcium Ascorbate, Magnesium Ascorbyl Phosphate, Alpha Arbutin, Oil Soluble Licorice Extract, Palmaria Palmata Extract, Azelaic Acid, Mulberry Extract, Phenoxethanol, Retinol (10,000 I.U/g), Kojic Acid, AE Protek NPB

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Microneedling Essentials (10 units of 0.12 fl.oz/ 3.5ml vials per box)

- Vital W - Wrinkles & Anti-Aging
- Vital PS - Pigment Stabilizer
- Vital WH - Wound Healing & Scar Revision
- Vital SM - Stretch Marks
- Vital CL - Cellulite Control
- Vital HR - Hair Restoration
Vital WH solution, combined with microneedling, offers a safe and effective method of scar revision. In addition to enhancing product penetration and triggering the body’s natural healing response, microneedling physically breaks up the existing fibrosis and collagen bundles, while the restorative ingredients in Vital WH work to accelerate the wound healing process of the skin. Together, they facilitate healthy tissue reformation by inducing proper alignment of collagen and elastin structures and by promoting cell proliferation through growth factor stimulation. Vital WH also provides ample hydration that is much needed for safe and fast healing.

**Key Ingredients and Features:**

**Lanolin:** Super refined, ultra-pure, cosmecutical strength lanolin sets a new gold standard in wound healing. It increases the rate of wound healing, and may be superior to petrolatum in promoting the healing of superficial wounds.

**Imperata Cylindrica (Root Extract) - (Water, Glycerin, PEG-8 and Carbomer):** Helps draw moisture into the skin cells, allowing hydration to take place all day long.

**MTS Beta Glucan:** Stimulates immune defense, fibroblast growth, and collagen synthesis. It also improves extrinsic signs of aging, while promoting healing and reducing scar discoloration.

**Palmitoyl Tripeptide-28:** A stabilized peptide, engineered for cutaneous delivery, that is resistant to enzyme degradation. It mimics TGF-ββ by activating the transforming growth factor-ββ receptor Type II (TβRII) to activate collagen synthesis. In consequence, it reduces wrinkles by turning on the gene responsible for increasing collagen production in the skin.

- 45% reduction in wrinkles in 28 days (in vivo)
- 152% increase in Collagen I Synthesis (in vitro)
- 175% increase in Collagen III Synthesis (in vitro)
- 48% MMP-9 Inhibition (in vitro)

**MTS Peptide 222 (5%), MTS Peptide 225 (5%), MTS Peptide 230 (5%):**

- Stimulates cell replication and collagen production
- Regulates cell proliferation
- Matrix remodeling, tissue repair, and wound healing
- Stimulates FGfα (FGF1) - Fibroblast Growth Factor, Acidic, FGfβ (FGF2) - Fibroblast Growth Factor, Basic, FGf3 - Fibroblast Growth Factor 3, FGf7 - Fibroblast Growth Factor 7 (Keratinocyte Growth Factor), CTGF - Connective Tissue Growth Factor, VEGF - Vascular Endothelial Growth Factor C, PDGF - Platelet-Derived Growth Factor C, GRN - Granulin

**VEGF (Vascular Endothelial Growth Factor):** Induces endothelial cell proliferation and migration during the wound healing process. Secretion of VEGF can be performed by a number of cell types, including: keratinocytes, macrophages, fibroblasts, and endothelial cells, generally in a hypoxic environment.

**PDGF (Platelet-Derived Growth Factor):** One of the numerous growth factors, or proteins, that regulate cell growth and division. It allows unspecialized connective tissue cells, called fibroblasts, to divide and stimulate connective tissue cells, and smooth muscle cells to divide at the wound site in order to repair the damaged area.

**bFGF (Basic Fibroblast Growth Factor):** Provides the initial stimulation of endothelial cell migration and proliferation in wound repair. It is also a potent mitogen for all cell types and found predominantly in the early proliferative phase of the wound.

**Vitamin E (D-Alpha Tocopherol), Beta Carotene, Carnosine, L-Arginine, Glucosamine Chondroitin Sulphate, Omega 3 Fatty Acids, Bee Propolis, ActiPlex 221, ActiPlex 224, Seaweed Extract, Honey, Green Tea Extract:** Facilitates wound healing.

**Ingredients:** Aloe Vera Gel, Propylene Glycol, Lanolin, Imperata Cylindrica Root Extract, Water, Glycerin, PEG-8 and Carbomer, MTS Beta Glucan, MTS Peptide 222, MTS Peptide 225, MTS Peptide 230, Palmitoyl Tripeptide-28, VEGF, PDGF, bFGF, Vitamin B Complex (B1, B2, B3, B5, B6, B12), Vitamin E (D-Alpha Tocopherol), Beta Carotene, Carnosine, L-Arginine, Glucosamine Chondroitin Sulphate, Omega 3 Fatty Acids, Bee Propolis, ActiPlex 221, ActiPlex 224, Seaweed Extract, Honey, Green Tea Extract, Grapeseed Extract

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Vital SM
(STRETCH MARKS)
Microneedling Essential Solutions

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• 48% MMP-9 Inhibition (in vitro)

MTS Peptide 225 & 239: Fibroblast growth factor gene stimulation. INCI: Glycerin, Water (Aqua), Myristoyl Pentapeptide-11. It works as an anti-aging peptide, while stimulating cell replication and collagen production.

MTS Beta Glucan: Stimulates immune defense, fibroblast growth, and collagen synthesis. It also improves the appearance of extrinsic signs of aging, while promoting healing and reducing scar discoloration.

Acetyl Tetrapeptide-10 and Pentapeptide–18: Helps to inhibit the degradation of the extracellular matrix. Pentapeptide–18 is a neuropeptide that acts similar to Botox.

Hydrolyzed Cucurbita Pepo (Pumpkin) Seedcake: Very effective in preventing and attenuating the appearance of stretch marks.

Melscreen Coffee EL DEO ORG (Coffea Arabica (coffee)) Seed Oil: Increases TGF factors, Collagen Synthesis, Elastin Synthesis, and Glycosaminoglycan (GAGs synthesis) by 2.5% after 48 hours in cell cultures.

Chlorellagen DP: Increases the synthesis of DEJ proteins including: Laminin V and V1, Collagen IV, VII, (DEJ proteins) III, I, and Elastin (Dermal Proteins). It also stimulates elastin synthesis, which increases the inhibition of elastase to prevent elastin degradation, measured by gene expression.

Pseudoalteromonas Ferment Extract: The extract of the fermentation process of Pseudoalteromonas Antarctica NF3 and is classed as a biological product that is used as a humectant and skin conditioning agent. It is a glycoprotein tripeptide-1 molecule, which is a peptide containing the following three amino acid residues: glycine, histidine, and lysine. It is a marine-based ingredient that is believed to increase the synthesis of collagen I, IV, and elastin.
• Stimulates collagen production
• Lessens the appearance of fine lines and wrinkles
• Increases elastin formation
• Reduces damage and environmental stress caused by external conditions
• Increases hydration and moisture in the skin
• Improves healing of the skin, and triggers rapid repair actions to damaged tissue

Ingredients:
Deionized Water, Sodium Hyaluronate, Palmitoyl Tripeptide-28, MTS Peptide 225 & MTS Peptide 239, MTS Beta Glucan Propylene Glycol, Pseudoalteromonas Ferment Extract, Hydrolyzed Cucurbita Pepo (Pumpkin) Seedcake, Acetyl Tetrapeptide-10 and Pentapeptide–18, Hydroxpropilisilane CN, Melscreen Coffee EL DEO ORG (Coffea Arabica (coffee)) Seed Oil, Chlorellagen DP, Marine Collagen, Marine Elastine, SDA-40 200 Proof, Algae Extract, Vitamin E Acetate, AE Protek NP8

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2 Vital PS - Pigment Stabilizer
3 Vital WH - Wound Healing & Scar Revision
4 Vital SM - Stretch Marks
5 Vital CL - Cellulite Control
6 Vital HR - Hair Restoration
Key Ingredients and Features:

**Caffeine, Butcher’s Broom Root Extract, Tea-Hydroiodide, Ivy Extract, Carnitine, Carrageenan, Disodium EDTA:** A fully integrated approach, that combines adipocyte inhibition, lipolytic activity, microcirculatory reactivation, and toxin scavenging, for maximum efficacy. This revolutionary compound provides a unique solution to fight cellulite.

**Tripeptide-1:** Acts as a scavenger for bi-products of lipid peroxidation. Therefore, enhancing the effectiveness of other components to fight cellulite and prevent adipocyte maturation.

**Hydroxyprolisilane CN:** A hydrosoluble derivative of organic silicon that stimulates the multiplication of cells, and is capable of significantly enhancing the cell renewal process.

**Catuaba Extract, Marapuama Extract, Pfaffia Extract:** Are standardized in saponins and flavonoids, that show a significant increase of free fatty acid release in floating human adipocyte cultures by 0.30m Eq/L after 48 hours. This causes a drastic reduction of intracellular lipid droplets, which increase skin temperature in the stomach and the thighs. Consequently, this results in an increase of microcirculation activation. It also improves the “orange peel” characteristic of cellulite.

**Machilus Thunbergii Bark Extract:** Displays anti-cellulite benefits, based on its abilities to inhibit lipid accumulation (Adipocyte Differentiation) through down-regulation of PPARs, HSL, LPL, Leptin, etc.

**Magnolia Officinalis Bark Extract:** Contains high amounts of organic compounds magnolol and honokiol that have anti-inflammatory properties to fight and inhibit the activation of NF-KB, a key facilitator in the aging and chronic inflammation processes. It helps to prevent the loss of skin elasticity and reduce reddening of the skin. It also has antioxidant and anti-bacterial properties to neutralize free radicals and decelerate the aging process.

**Methylsilanol Carboxymethyl Theophylline Alginate:** Has beneficial effects on lipolysis in the adipocytes, as well as the trophicity and degeneration of the proteoglycans in elastin fibers and collagen. It also affects the tissular permeability and thus, the resorption of local oedema.

**Directions:** Lift and pull off the clear plastic cap in the direction of the two arrows (↑) embossed on the foil wrap of the vial. Both the plastic cap and foil wrapping should peel off. Then remove the rubber cap. Apply the solution evenly to the treatment area before, during and after microneedling. Gently massage into the skin until absorbed. For more details, refer to CRL microneedling training materials.

**Caution:** For professional use only. Discontinue use if skin irritation or redness develops.
Vital HR
(HAIR RESTORATION)
Microneedling Essential Solutions

Vital HR Solution, combined with microneedling, offers an innovative method of rejuvenating the scalp. It does so by significantly increasing transdermal delivery of active ingredients into the deeper layers of the scalp.

**Hair Follicles Maintain Their Youth** - Through the stimulation of cell communication and metabolism, hair follicle anti-aging is promoted, anchoring molecules are stimulated, hair growth is supported, and premature hair loss is slowed. Based on a vitaminized peptide complex, Vital HR targets the main causes of alopecia, which is a physical phenomenon that can affect the hair growth cycle in as many as 70% of men and up to 50% of women. It also helps slow the effects of aging by lessening harmful dihydrotestosterone (DHT) production, improving irrigation of the hair follicles, and stimulating the production of anchoring molecules.

**Key Ingredients and Features:**

**Biotinyl Tripeptide-1**: Considered a protein derivative, this specialized synthetic molecule contains three amino acid residues: glycerine, histidine, and lysine. It is frequently used as a skin conditioning agent for its role in building and preventing the breakdown of collagen.

**Biotin**: A form of vitamin B that is essential for cellular growth in the body, as well as the activity of many enzyme systems. It is commonly found in many dermatologist-recommended hair loss treatments for its key role in the manufacturing of healthy hair.

**Apigenin**: A bioflavonoid (bioflavonoids maintain the walls of small blood vessels) commonly found in leafy plants and vegetables such as parsley, artichoke, basil, and celery. Current research trials indicate that it can reduce oxidative damages to DNA. It also possesses vasodilative properties by helping to increase blood vessel circulation.

**Oleanolic Acid**: Possesses antioxidant properties, which have beneficial effects on the hair by making it stronger and less susceptible to loss. Its anti-inflammatory properties aid in reversing and preventing the damage caused by DHT. Oleanolic Acid also has the ability to inhibit S-alpha reductase, the enzyme that converts testosterone to dihydrotestosterone.

**Kopexil**: Increases hair volume in the growth stage by working on the deep structure of the roots. Hair loss is connected to the deterioration of the roots, in both men and women. Kopexil rejuvenates the hair roots so healthy hair growth can persist. It corrects fibrosis, a condition of the hair roots that causes blood vessels to compress, which shortens the life span of the hair follicle.

**Ingredients**: Water, Algae Extract, Diaminopyrimidine Oxide (Kopexil), Glyceryl Stearate, PEG-100 Stearate, Cetyl Alcohol, Pentylene Glycol, Glutamine, Solanum Tuberosum (Potato) Extract, Butylene Glycol, Aqua, PPG-26-Buteth-26, PEG-40 Hydrogenated Castor Oil, Apigenin, Oleanolic Acid, Biotinoyl Tripeptide-1, Silanediol Salicylate, Lawsonia Inermis (Henna) Extract, Barosma Betulina Leaf Extract, Adiantum Capillus Veneris Leaf Extract, Spondias Amara Hance Extract, Robus Fruticosus (Blackberry) Leaf Extract, Trichomonas Japonica Maxim Extract, Glycerin, Sodium Metabisulfite, Glycine, Larix Europaea Wood Extract, Zinc Chloride, Camellia Sinensis Leaf Extract, Biotin, Potassium Sorbate, Triethanolamine

**Directions**: Lift and pull off the clear plastic cap in the direction of the two arrows (]]) embossed on the foil wrap of the vial. Both the plastic cap and foil wrapping should peel off. Remove the rubber cap. Apply the solution evenly to the treatment area before, during, and after microneedling. Gently massage the scalp, using fingertips, until absorbed. After the treatment, allow the solution to remain on the scalp for at least four hours before washing. Following an in-clinic treatment, Peptide HR Complex (post-care solution) should be applied nightly, before bedtime, on clean scalp. For more details, refer to CRL microneedling training materials.

**Caution**: For professional use only. Discontinue use if irritation or redness develops.

### Microneedling Essentials (10 units of 0.12 fl.oz/ 3.5ml vials per box)

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<th>Clinical Solutions for Microneedle Therapy</th>
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<td>1 Vital W</td>
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<td>5 Vital CL</td>
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<td>6 Vital HR</td>
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Manufactured by Clinical Resolution Laboratory, Inc.
Brea, CA 92821
www.skincarecrl.com
www.clinicalresolution.com
info@clinicalresolution.com

(877) 566-9687

**Vessel Circulation**

Vasodilative properties by helping to increase blood flow, which can reduce oxidative damages to DNA. It also possesses anti-inflammatory properties aiding in reversing and preventing the damage caused by DHT. Oleanolic Acid also has the ability to inhibit S-alpha reductase, the enzyme that converts testosterone to dihydrotestosterone.