



melanogenesis

dermodality

SKIN SOLUTIONS



Our Philosophy is to support the success of the aesthetician and skin care technician by providing quality clinical skin care technologies and educational opportunities that produce a generous revenue stream and secure client retention, while providing the consumer with state-of-the-art, high performance products.

the science...

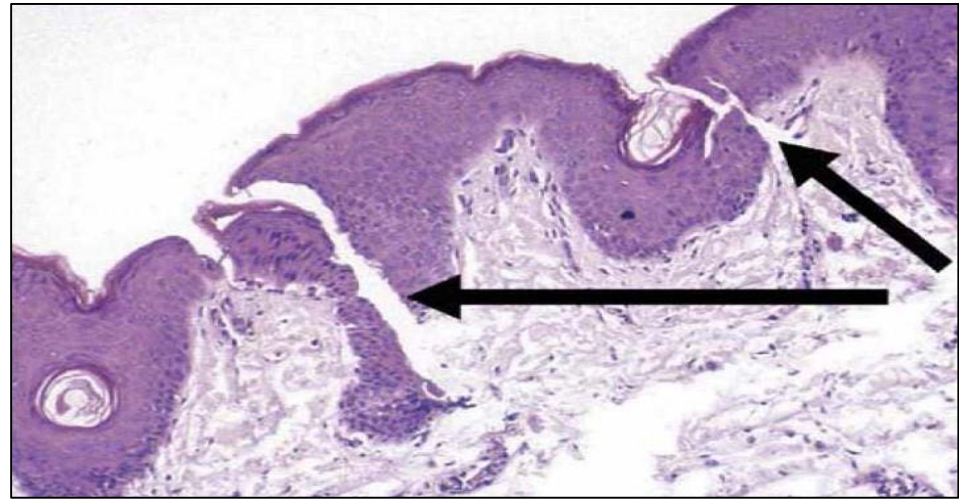
pre-conditioning...

- Precursor to all Dermodality TCA/Jessner peels
(No Exceptions)
- Builds tolerance
- Prepares the skin to tolerate deeper peels
- Provides predictable success of treatments
- Pre conditioning is necessary for Level 2&3 peels

pre-conditioning chemical peels

*chemical peels trigger the wound repair response, if skin is pre-conditioned
chemical peels only cause minimal damage to epidermis...*

- Pre-conditioning minimizes the risk of hyperpigmentation
- Only temporary disruption of the skin barrier function
- Minimizes downtime
- Pre-conditioning offers a simple and safe way to improve the appearance of the skin without risk of pigmentation issues in patients of all skin types



*Fernandes, D. OralL. Maxillofacial Surg Clin 2005;17:51-63.

fitzpatrick scale

- I. Always Burns, Never Tans (2-4 wks pre-conditioning)
- II. Always Burns, Sometimes Tans (2-4 wks pre-conditioning)
- III. Sometimes Burns, Always Tans (4-6 wks pre- conditioning)
- IV. Rarely Burns, Always Tans (6-8 wks pre-conditioning)
- V. Moderately Pigmented (8-10 wks pre-conditioning)
- VI. Black Skin (10-12 wks pre-conditioning)

melanin

Melanin is the pigment primarily responsible for skin color

Melanocytes are melanin producing cells located in the basal layer of the epidermis

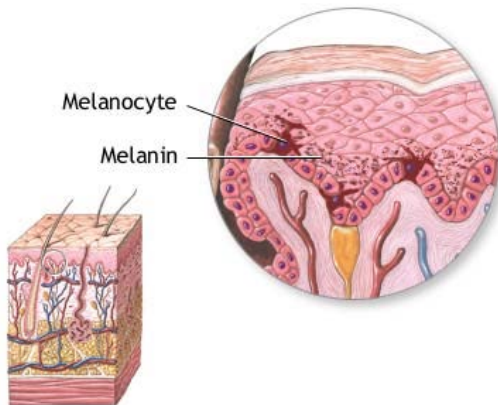
Melanogenesis is triggered by inflammation from UV, hormones, stress and injury.

Melanin's primary function is to protect the hypodermis from UV-light that causes DNA photodamage.

Light and dark pigmented skin is not due to the quantity of melanocytes but to the amounts of eumelanin and pheomelanin

Eumelanin-most abundant type of human melanin, found in brown and black skin

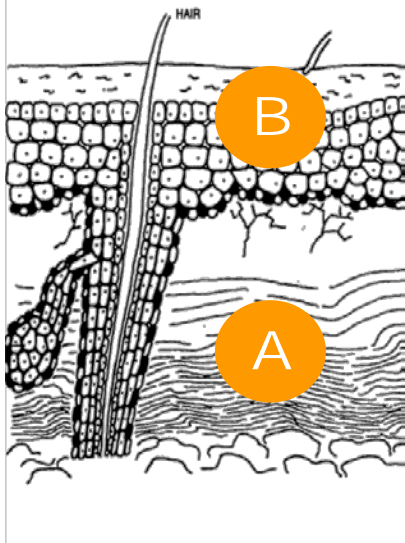
Pheomelanin- melanin found in light skin and red hair



tyrosinase

- **Tyrosinase** is an enzyme that catalyzes the production of melanin from tyrosine by oxidation
- **Tyrosinase** is located in melanocytes
- **Tyrosinase** is a copper-containing enzyme
- **Tyrosinase** is required for melanocytes to produce melanin from the amino acid tyrosine
- **Tyrosinase** is stimulated by various inflammatory factors:
 - UV (sun exposure)
 - Hormones (87% of pregnancies develop melasma)
 - Contraceptive drugs (80% develop melasma)
 - Stress
 - Heredity
 - Chemically/Heat based treatments
 - Injury
 - Acne
 - Dermatitis

hyperpigmented/sun damaged skin

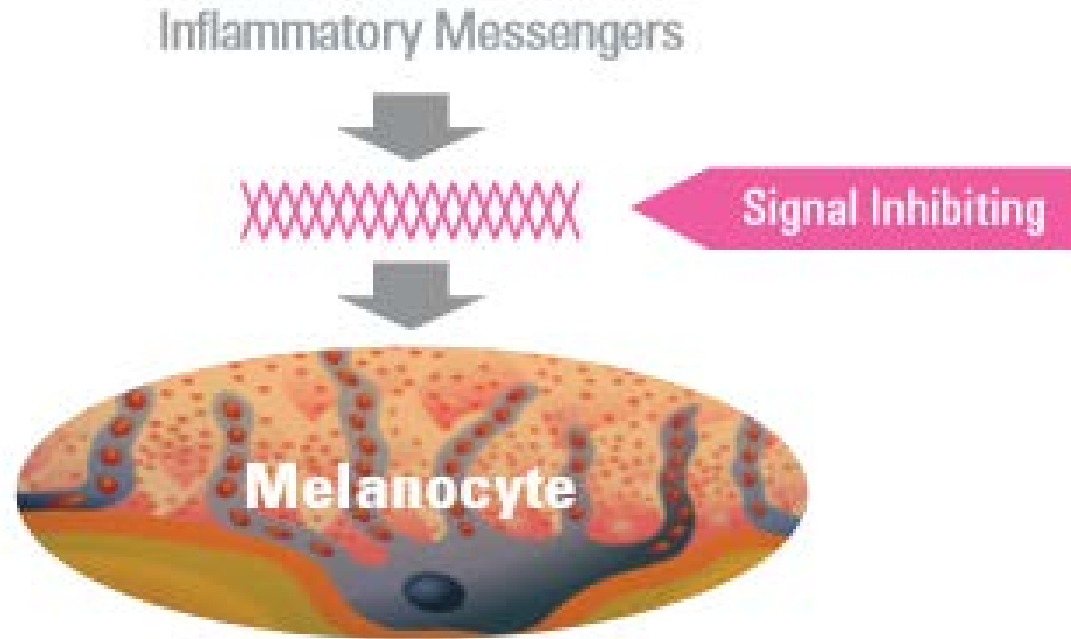


DISEASE	PRESENTATION
<p>A – melanocytes in the basal layer produce melanin (pigmentation) and deposit on melanosomes, which are transferred to keratinocytes, breaking into pieces. Melanocytes are affected by heredity, hormones, light energy, and other factors.</p> <p>B – The pigment we see are fragments of keratinocytes, which are moving through the stratum corneum. The stratum corneum builds up and these fragments become trapped and cluster in the upper layers of skin.</p>	<ul style="list-style-type: none">• Freckles• Sun spots, “age” or “liver” spots• Uneven complexion• Melasma (dark discoloration)• Acne spotting• Dyschromia (abnormal skin color)• Chloasma (patchy brown or dark brown – hormonal/pregnancy)

melanogenic cascade

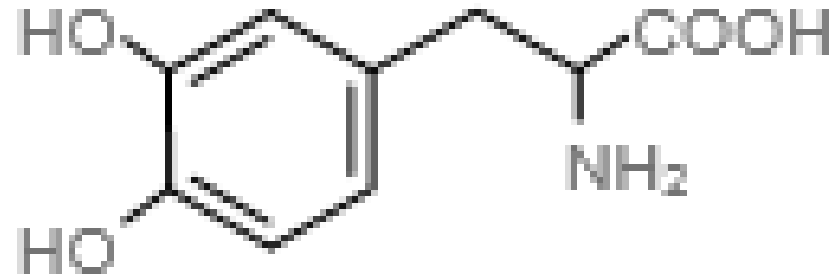
1. Start of melanogenesis: inflammation processes
2. Melanocyte produces tyrosine which is converted by the tyrosinase
3. Tyrosinase converts tyrosine to L-DOPA (L-dihydroxyphenylalanine)
4. Dopachrome is converted to DHICA (intermediate in the biosynthesis of melanin)
5. Melanin production

melanogenic cascade



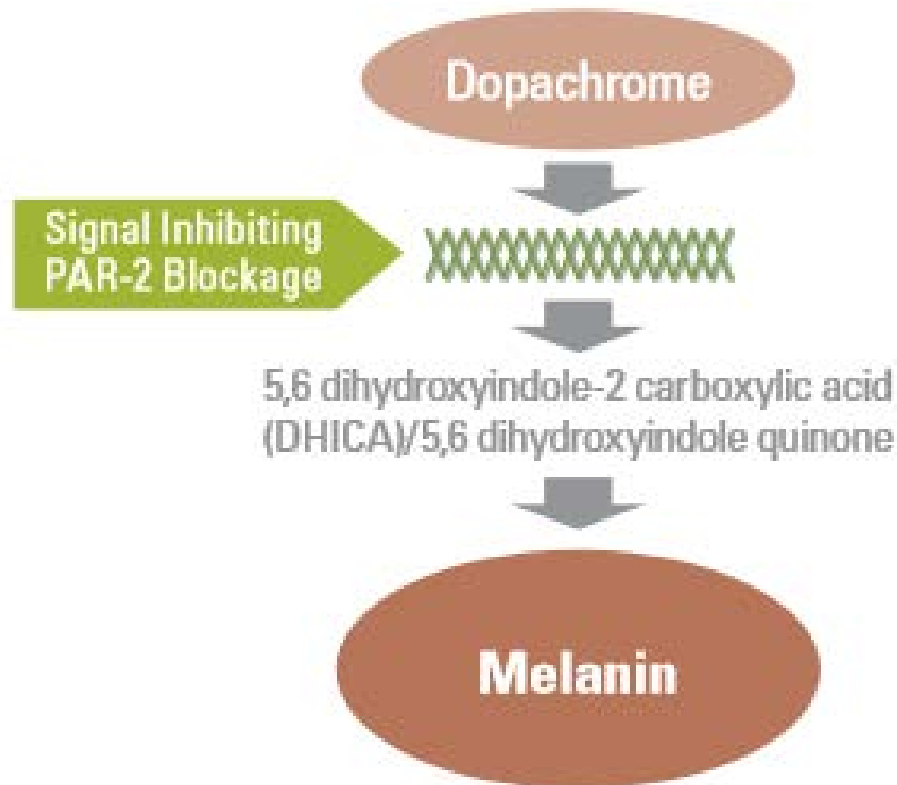
melanogenic cascade

Tyrosinase



DOPA
(Dihydroxyphenylalanine)

melanogenic cascade



oxidation

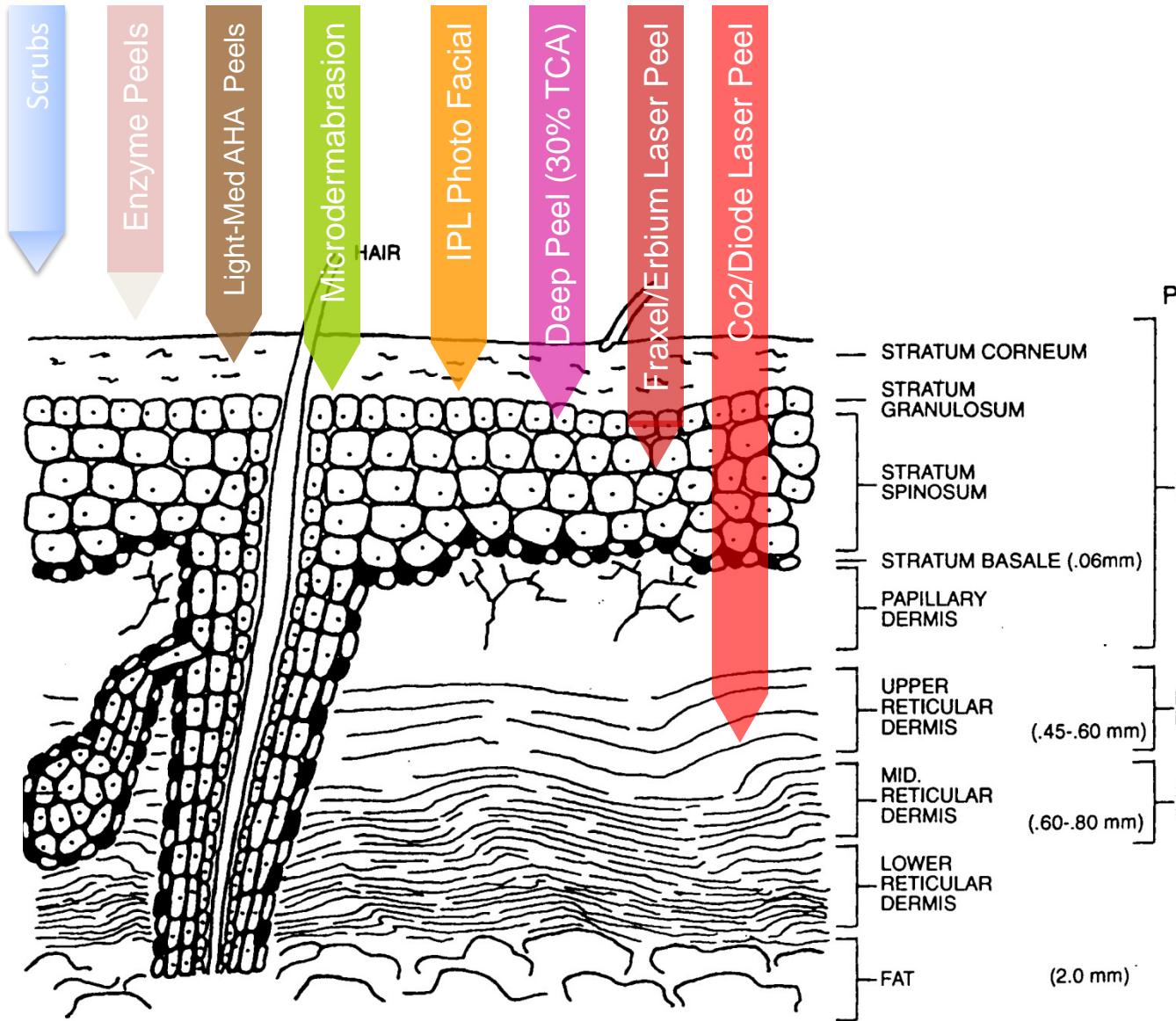
- Tyrosinase is responsible for melanin production from tyrosine by oxidation

If the tyrosine in a banana is responsible for the yellow color of the peel, tyrosinase is responsible for causing the peel to turn brown. If tyrosine is responsible for skin pigmentation, tyrosinase is responsible for hyperpigmentation...

inflammatory triggers

- Sun is responsible for most skin hyper-pigmentation
- Sun, stress, hormones, inflammation from treatments/trauma cause hyperpigmentation
- Skin can hyper-pigment from any kind of stress especially hormonal imbalances
- Hormones play a role in regulating pigment production (pregnancy/birth control meds)
- Stress hormones: epinephrine and norepinephrine (neurotransmitters) dependent on Tyrosine
- Body responds the same to any kind of stress
- Triggers are: inflammation due to treatments, hormones, stress, sun exposure, injury, sugar/synthetics in the diet, too much caffeine lack of antioxidants

skin resurfacing methods



melanogenesis

Six steps of Whitening

1、Prevention

——reduce the absorption of UV light

2、Protection

——Anti free radicals and inflammation

3、Activity of melanocyte

——Reduce the manufacture and activity of melanocyte

4、The process of Melanocyte's synthesis

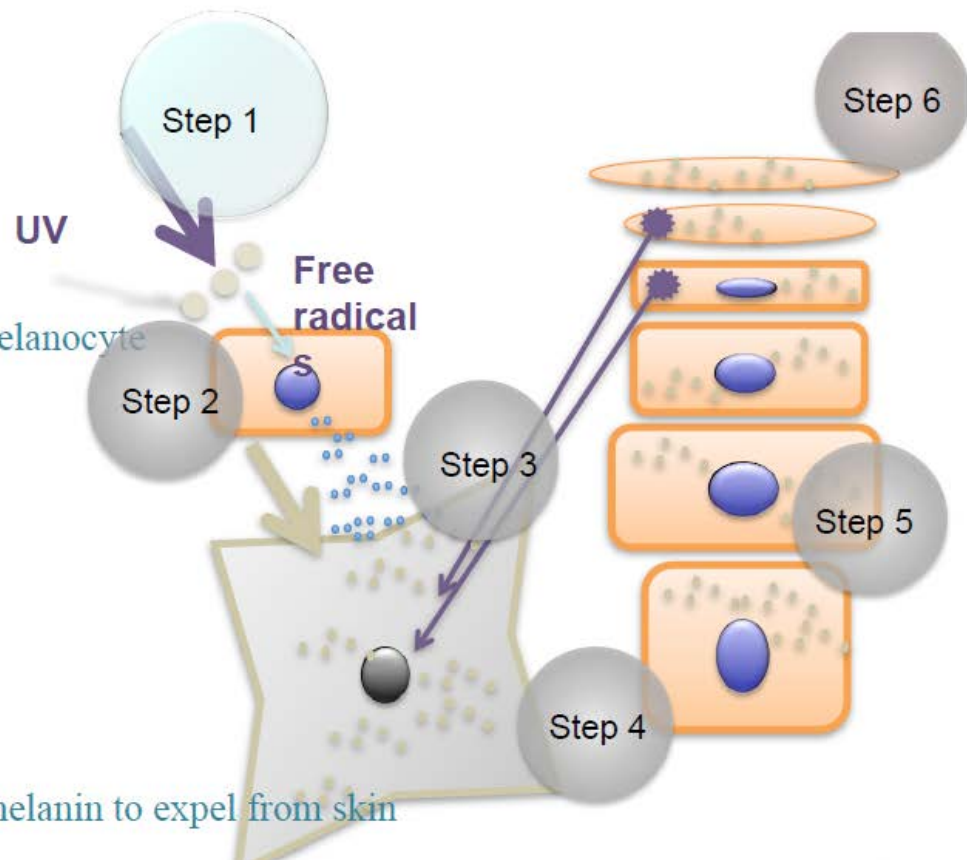
——Inhibit the activity of enzymes

5、The existing Melanin

——Eliminate the existing Melanin

6、Accessorial step

——Accelerate the metabolism of cells, help melanin to expel from skin



tyrosinase inhibitors

glutathione:

- An important antioxidant in animals
- One of the most important cellular antioxidants
- Glutathione prevents damage caused by free radicals
- Produced in the body and made from the amino acids cysteine, glutamine and glycine
- Used in metabolic/biochemical reactions such as DNA synthesis and repair
- Binds to Tyrosinase and helps prevent the enzymatic pathways from producing melanin
- Its antioxidant properties eliminate free radicals and inactivate tyrosinase
- Helps prevent the activation of tyrosinase by reducing free radicals that activate and cause an increase in melanin production
- Melanin is the pigment that gives our skin its color, produced by the activation of the enzyme Tyrosinase
- Can be applied topically or as an oral supplement

tyrosinase inhibitors

hydroquinone:

- Hydroquinone is considered the gold standard
- Hydroquinone inhibits melanin synthesis (tyrosinase inhibitor)
- Commonly used at concentrations of 2-4% (4% requires prescription)
- Clinical studies report good responses at 2%
- Higher concentrations are effective but can cause irritation
- Safely combined with retinoids
- Agency for Research on Cancer does not classify as a carcinogen in humans

tyrosinase inhibitors

kojic acid:

- Derived from natural fungus (mushroom)
- Reduces hyperpigmentation (inhibits tyrosinase production)
- Potent antioxidant
- Used at concentrations from 1% to 4%
- KA and HQ in combination, with glycolic acid, improve efficacy
- Patients not responding to HQ may benefit by adding KA to treatment

tyrosinase inhibitors

alpha arbutin:

- Alpha-arbutin widely prescribed de-pigmenting agent worldwide
- Naturally occurring plant derived compound: bearberry, blueberry, cranberry, pears
- Inhibits tyrosinase and melanosome maturation (transporters of melanin)
- Less cytotoxic to melanocytes than hydroquinone
- Less effective than kojic acid for hyperpigmentation when used alone

tyrosinase inhibitors

L-ascorbic acid:

- Vitamin C is a naturally occurring antioxidant
- Interacts with copper ions at the tyrosinase active site
- A “reducing agent” at various oxidative steps of melanin formation
- Inhibits melanogenesis
- Reduces tyrosinase activity by antioxidant activity (not by inhibiting tyrosinase)
- Magnesium-ascorbyl-phosphate (MAP) is lipophilic, stable vitamin C derivative absorbed through the stratum corneum

tyrosinase inhibitors

alpha tocopherol:

- Photo-protective effects
- Causes depigmentation by interference with lipid peroxidation of melanocytes
- Increases intracellular glutathione and inhibits tyrosinase
- Improves melasma and pigmented contact dermatitis used with vitamin C

tyrosinase inhibitors

niacinamide:

- Also known as nicotinamide
- A component of niacin (vitamin B3)
- Required for cellular metabolism
- Interferes with the interaction between keratinocytes and melanocytes
- Inhibits melanogenesis
- Modulates the enzyme involved in transfer of melanosomes from melanocytes to keratinocytes
- 2% niacinamide reduces the hyperpigmentation and increases skin lightness after 4 weeks
- Niacinamide with sunscreen is more effective reducing hyperpigmentation than sunscreen alone

tyroinase inhibitors

aloe vera:



- Active ingredient is aloin made from the whole leaf
- Leaf extract has melanin accumulating effects leading to skin lightening
- Aloesin is a natural derivative of aloe vera
- Inhibits tyrosinase at non-cytotoxic concentrations
- Aloe vera extract is a common ingredient often used in place of water

tyrosinase inhibitors

flavonoids:

- Naturally occurring polyphenolic compounds
- Anti-inflammatory, antioxidant, antiviral and anti-carcinogenic properties
- Gallic acid (from green tea leaves)
- Ellagic acid (from green tea, eucalyptus, strawberry, etc.)
- Aloesin (from aloe tree)

tyrosinase inhibitors

green tea extract:

- Contains polyphenolic compounds that act on various biochemical pathways
- Anti-inflammatory, anti-oxidant and anti-carcinogenic effects
- Gallic acid is the main active ingredient in green tea
- Green tea extracts cause inhibition of mushroom tyrosinase
- Responsible for the de-pigmenting effect on the skin

tyrosinase inhibitors

licorice extract:

- Licorice extract is obtained from the root of Glycyrrhia Glabra Linnera
- It is cultivated extensively in India
- Improves hyperpigmentation by dispersing melanin
- Inhibits melanin biosynthesis
- Decreases free radical production and has anti-inflammatory effects
- Glabridin, a polyphenolic flavonoid is the main component and prevents Ultraviolet B (UVB) induced pigmentation

tyrosinase inhibitors

retinoids:

- Derivatives of vitamin A
- Inhibit tyrosinase and epidermal melanin dispersion
- Interfere with pigment transfer to keratinocytes
- Accelerate pigment loss by causing the epidermis to shed quickly
- Increases stratum corneum density and decreases melanin
- Improves melasma used with corticosteroids, hydroquinone, retinoic acid
- Retinoids facilitate epidermal penetration and delivery of hydroquinone

tyrosinase inhibitors

sun protection:

- Broad spectrum sunscreens are the cornerstone of hyperpigmentation therapy
- Minimize inflammation caused by UV exposure
- Opaque substances, zinc oxide and titanium dioxide, reflect and scatter most of the UV rays
- Chemical sunscreens absorb light in the UVA range

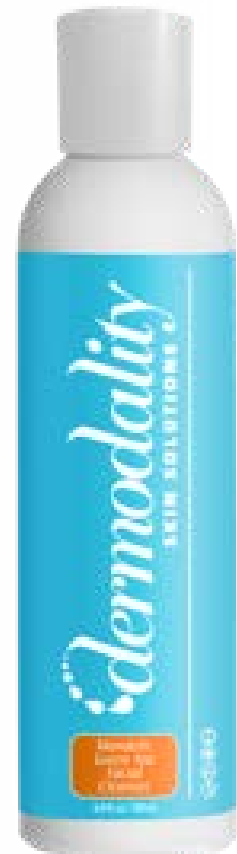
product knowledge

mandelic green tea cleanser

anti-inflammatory & smoothing

pH-6.2 (am/pm)

- Mandelic Acid – anti-inflammatory, decongesting
- Green Tea - antioxidant
- Gently washes away dead skin cells
- Helps to decongest pores
- Perfect for sensitive and rosacea skin conditions
- Ideal for daily cleansing



foaming cleanser

gentle and antioxidant

pH-6.2 (am/pm)

- For dry, sensitive skin
- Sulfate-free formula
- Light, airy foam to rich, creamy lather
- Hydrates and moisturizes skin
- Vitamins A, C and E
- Promotes skin cell rejuvenation
- Removes make-up and surface impurities
- Skin is clean, smooth and hydrated



creamy cleanser

anti-inflammatory & smoothing

pH-6.3 (am/pm)

- For sensitive, aging skin and rosacea
- Sulfate-free formula
- Highly concentrated, luxurious formula
- Transforms to a rich, creamy lather
- Gently cleanses, hydrates and moisturizes
- Contains vitamins A, C and E
- Promotes skin cell rejuvenation
- Removes make-up and surface impurities
- Bilberry extract brightens skin

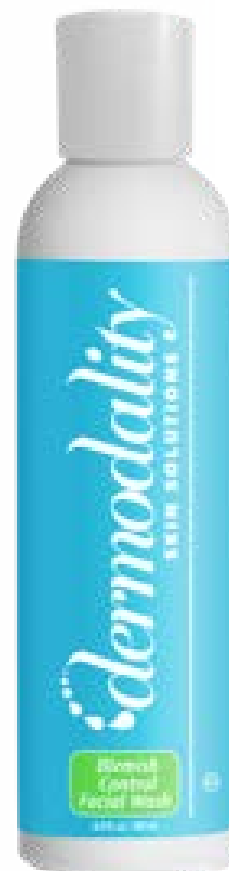


blemish control facial wash

2.5% refined benzoyl peroxide

pH-5.0 (am/pm)

- Kills *P-acnes*, acne-causing bacteria
- Treats acne-prone skin/Targets problem areas
- Contains 2.5% Micronized Benzoyl Peroxide
- Prescription strength
- Removes excess oil
- Reduces stress on skin
- Alleviates sensitivity and prevents irritation
- Clears and clarifies skin
- Paraben and Sulfate free



mandelic toner

soothing & balancing

pH-1.5 (am/pm after cleansing)

- Balances pH
- Alcohol-free, fragrance-free
- Minimizes dryness and dehydration
- Mandelic acid – anti-inflammatory, decongesting
- Allantoin – anti-inflammatory, calming
- Chamomile - anti-inflammatory, calming
- Aloe – anti-inflammatory, hydrating
- Ideal after cleansing, shaving, waxing and exfoliating



exfoliating pads

10% glycolic acid/2% salicylic acid

acne and anti-aging treatment

pH-4.3 (am/pm after cleansing)

- Used professionally for peel prep
- OK 1-2 times a week at home (retail)
- Acne – daily usage
- Lightly exfoliates dead skin cells
- Destroys surface bacteria
- Replaces mechanical scrubs
- Helps lighten pigment
- Great for back-facial treatment



peptide plus

light weight intensive hydration/anti-oxidant

pH-5.0 (am/pm)

- Peptides restore collagen production, stimulating fibroblast cells
- Reduces the appearance of wrinkles
- Marine algae-increases surface hydration
- Vitamin C – stimulates collagen, antioxidant
- Vitamin A – accelerates cell turnover
- Vitamin E – provides hydration, antioxidant
- Green Tea – antioxidant, anti-inflammatory
- Anti-inflammatory (cucumber/melon)
- Brightening – licorice extract
- Ideal for all skin types
- Unique, lightweight, serum based formula
- Layer with SPF, Weightless or Ageless



ageless moisturizer (anti-aging)

mega peptide

pH-5.0 (am/pm)

- Ideal for adult and mature skin types
- Diminishes signs of aging
- Stimulates collagen production
- Reduces the appearance of wrinkles and fine lines
- Marine algae - increases surface hydration
- Vitamin C – stimulates collagen, antioxidant
- Vitamin A – accelerates cell turnover
- Vitamin E – provides hydration, antioxidant
- Green Tea – antioxidant, anti-inflammatory
- Brightening – kojic acid, licorice extract



SunMoist SPF 30 sunblock

lightweight protection

pH-6.5 (am)

- Lightweight sun block
- 6% zinc oxide
- 1.5% titanium dioxide
- Aloe – hydrating, anti-inflammatory
- Vitamin E – hydrating, antioxidant, anti-inflammatory
- Green Tea - antioxidant
- May replace daily moisturizer for normal/oily skin types
- Skin is moisturized and protected



vitamin C: intense™ w/l-ascorbic acid

antioxidant & brightener

pH-3.6 (am)

- Highly concentrated vitamin C
- +21% L-Ascorbic Acid
- Treats aging and environmentally damaged skin
- Enhances collagen production
- Reduces hyperpigmentation
- Alpha-Arbutin - promotes bright, even skin tone
- Provides immediate visual changes
- Reveals younger, brighter, tighter complexion



vitamin A:intense

anti-wrinkle & cell stimulation

pH-3.6 (pm)

- Anti-aging, acne, pre-conditioning benefits
- **Vitamin A - retinol activates cell turnover**
- Minimizes fine lines and wrinkles
- Vitamin C - Stimulates collagen production, antioxidant
- Lactic acid – gently promotes cell turnover
- Salicylic acid – controls sebum production
- Breaks up accumulations of dead skin cells
- Visibly reduced signs of aging
- Causes no dehydration or sensitivity
- Helps repair aging and sun damaged skin



HQ lightening gel

pigment correcting

pH-3.6 (pm)

- Brighteners - Hydroquinone, Kojic acid, Ascorbic acid, Alpha-Arbutin, Niacinimide
- Glycolic, Lactic Acid – Promote cell turnover
- Vitamin E – antioxidant, hydrating
- Vitamin C – antioxidant, stimulates collagen
- Powerful brightening treatment
- Lightens age spots, acne scars, sun spots
- Effective for other forms of hyperpigmentation.
- **Guaranteed to visibly reduce superficial pigmentation**



hyaluronic: C ester
*anti-aging, water sealing,
moisture expanding*
pH-5.8 (am/pm)

- Stabilized vitamin C, penetrates easily
- Maintains potency
- Proprietary Licinol Liposomes allow for deep penetration
- Provides moisture to tight, dry skin
- Hyaluronic Acid holds 1000 X its weight in water
- Continually moisturizes, skin is hydrated all day
- Naturally plumps skin, refining the surface
- Minimizes fine lines around eyes and lips



m:corrective

mandelic acid

decongesting/anti-inflammatory

pH-2.0 (am/pm)

- Mandelic acid - highly anti-inflammatory
- AHA derived from bitter almonds
- Glycolic acid – accelerates cell turnover, antibacterial
- Minimizes breakouts
- Decongests skin/reduces pore size
- Vitamin E – anti-inflammatory, antioxidant
- Clarifies and balances, enhances and brightens
- Pre and post laser treatment/reduces downtime
- Treats aging skin, hyperpigmentation, acne



retinol mixer

max anti-aging cell stimulation

pH-3.6 (pm)

- Retinol – accelerates cell turnover
- 2% kojic acid – brightener
- 1.4% Alpha arbutin - brightener
- 2% niacinamide - brightener
- Lactic acid – refines skin texture
- Provides noticeable improvement in skin texture
- Highly concentrated retinol; well tolerated, less redness
- Minimizes deep and fine lines
- Balances skin tone



vitality booster super serum

intensive antioxidant hydrating serum

pH-4.0 (am/pm)

- Ideal for adult and mature skin types
- Diminishes signs of aging
- Stimulates collagen production
- Reduces appearance of wrinkles/fine lines
- Marine algae - increases surface hydration
- Vitamin C – stimulates collagen, antioxidant
- Vitamin A – accelerates cell turnover
- Vitamin E – provides hydration, antioxidant
- Green Tea – antioxidant, anti-inflammatory
- Brightening – kojic acid, licorice extract



*pre-conditioning
professional peels*

pre-peel prep pads

- Dual Solvent System
- 91% Isopropyl Alcohol
- Acetone
- Effectively cleanses & removes sebum, oils, residues
- Preps skin to provides a more uniform peel



Pumpkin peel 30%

3.2pH

- 10% Glycolic Acid
- 20% Lactic Acid

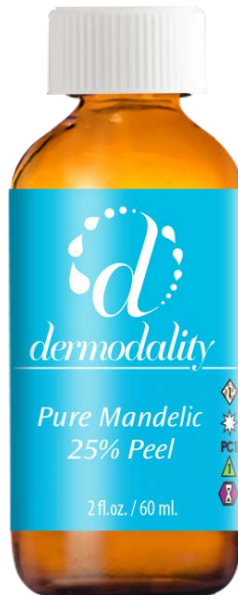


- Provides exfoliation
- Allows acids to penetrate clogged pores
- Assists in cell proliferation
- Bilberry extract – vasodilation allows for better penetration
- Can be used alone or with other chemical peels
- Ideal for use with other facial treatments as in micro-dermabrasion

mandelic 25% peel

3.0pH

- 25 % Mandelic Acid
- 10% Lactic Acid
- 2 % Salicylic Acid
- 2% L-Ascorbic Acid

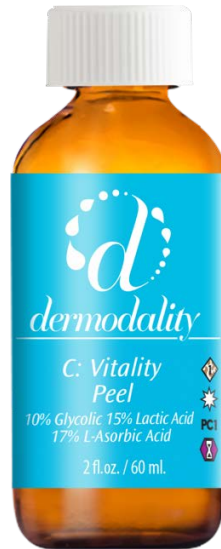


- Highly anti-inflammatory
- Mandelic acid helps remove dull layers of dead skin cells
- AHA's improve the texture of skin
- Decongests skin and unclogs pores
- Reduces the appearance of fine lines and wrinkles
- Helps stimulate collagen and elastin production

C: vitality peel

3.0pH

- AHA 25 %
- 10% Glycolic
- 15% Lactic Acid
- 17% L-Ascorbic Acid

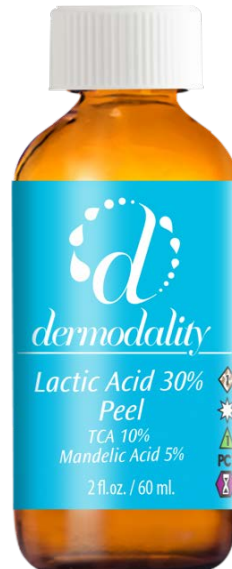


- Highly concentrated vitamins and fruit-driven anti-oxidants
- Contains skin balancing nutrients
- Replaces traditional enzyme scrubs
- Uses highly concentrated distilled extracts
- Bilberry extract – vaso dilation allows for better penetration
- Concentrated anti-inflammatory Ingredients for minimal irritation

lactic acid 30%

3.0pH

- 30% Lactic Acid
- Larger molecule
- Slower penetration
- Reduces edema and erythema

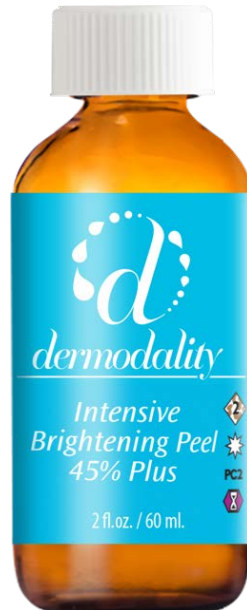


- Lactic Acid complements other chemical Peels to achieve a multiple treatment protocol
- Used alone it is a gentle but effective exfoliant
- Can be used with Pumpkin Peel 30%

intensive brightening peel 45% plus

3.0pH

- Kojic Acid
- Mandelic, Lactic, Glycolic Acids
- Salicylic Acid
- L-Ascorbic Acid
- Bilberry
- Beta-Carotene



- Visibly lightens and brightens skin
- Skin becomes softer and smoother
- Bilberry extract – vaso dilation allows for better penetration
- Correcting mechanism is immediately visible
- No irritation even when used with Pumpkin peel

retinol 10/10

pH 2.2

- 10% Retinol
- 10% Lactic Acid



- Used over TCA, Salicylic, Modified Jessner, Jessner Peels
- Instantly reduces irritation and discomfort
- Last step in peel process
- Do not remove, client wears home
- Follow with SunMoist

case study:

Treatment:

Micro-dermabrasion
Mandelic Acid 25% Peel
Pumpkin Peel 30%

Home Care:

Mandelic Green Tea Cleanser (am/pm)
M:Corrective (am)
Retinol Mixer (pm)
SunMoist SPF 30 (am)



case study:



Professional Treatment:

- Microdermabrasion
- C: Vitality Peel
- PBS : Oatmeal mask with anti-oxidant active

Home care:

- Creamy cleanser (am/pm)
- Mandelic toner (am/pm)
- Retinol Mixer Serum (pm)
- Hyaluronic-C ester (am)
- Peptide Plus (am/pm)
- Sunmoist SPF (am)

case study:



Before

After

Professional Treatment:

Series of 4 facials with peel #1 and #2

- Mandelic peel 25%
- Pumpkin Peel 30%
- Rhassoul mask w/anti-ox, minerals

Facial # 3 finish with 15/15 Long Island

Facial # 4 Salicylic 20% Peel with 20/20
(Protocol in the Manual)

Home Care:

- Mandelic green tea cleanser (am/pm (am/pm)
- Mandelic toner (am/pm)
- M-corrective (am)
- Sunmoist SPF (am)
- Acne RX Serum (pm)
- Weightless (pm)

Thank You!

 *dermodality*
SKIN SOLUTIONS 