PharmaClinix®
Advanced Cosmeceuticals

- **Fast acting**
- **Complex formulations**
- **Clinically proven ingredients**
- **Economical price**

UK's top selling Professional Skincare

PharmaClinix Ltd, Unit 3 Issigonis House, Cowley Road, London, W3 7UN, UK

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Lightenex® Bright

INGREDIENTS:

1. BETA ARBUTIN 2%
2. OCTADECENE-DIOIC 2% (DIOIC ACID)
3. NIACINAMIDE 4% (NICOTINAMIDE)
4. MAGNESIUM ASCORBYL PHOSPHATE 2%
5. LIQORICE EXTRACT 2%
6. SALICYLIC ACID 2%

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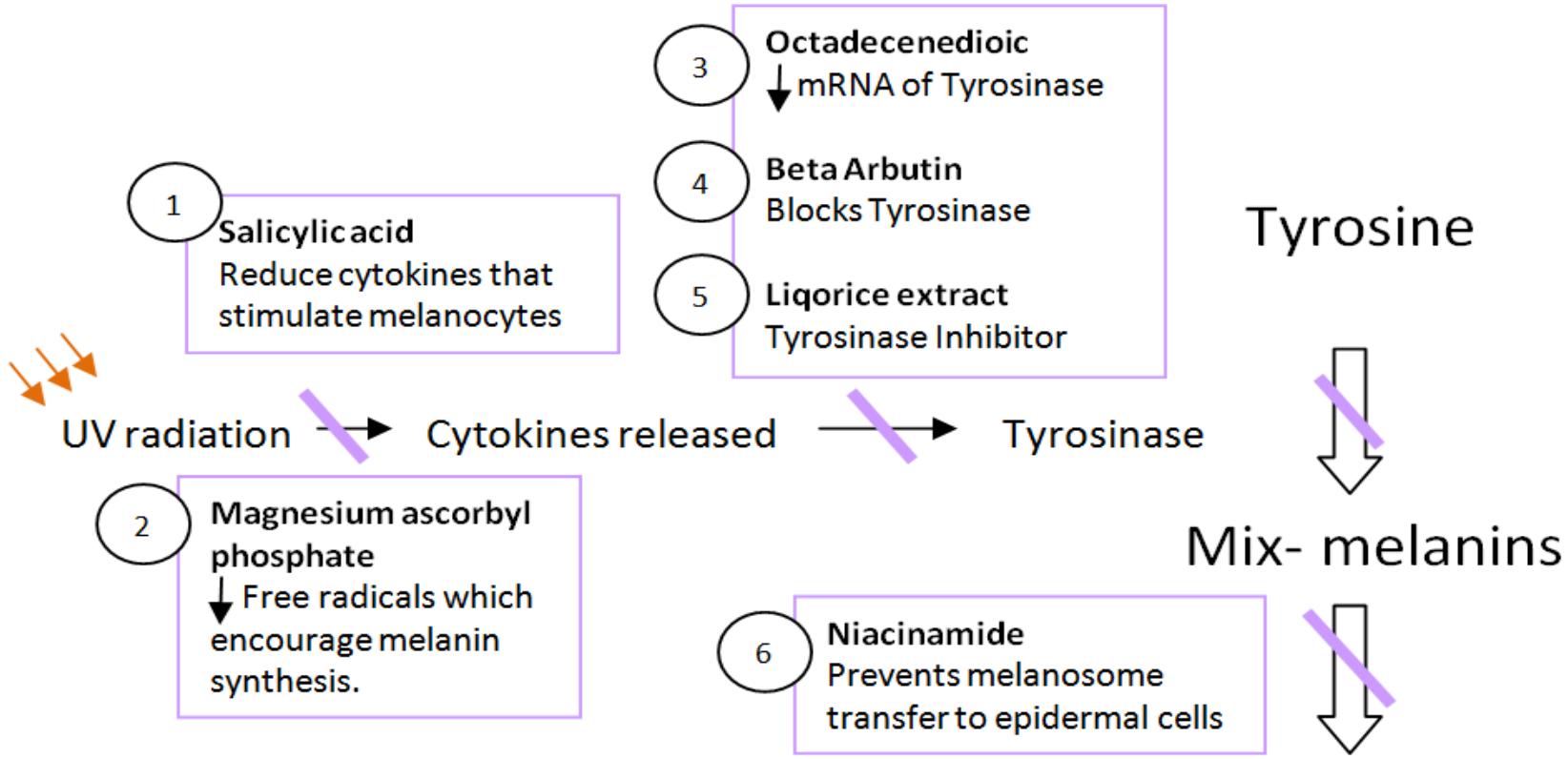
The Science Behind Lightenex® Bright



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Lightenex® Bright

- **Beta Arbutin 2% -** Blocks rate limiting enzyme Tyrosinase to reduce Melanin synthesis.
- **Octadecene-dioic (Dioic acid) 2% -** Di-Carboxylic acid like azelaic acid prevents synthesis of mRNA of the enzyme tyrosinase. Most effective in melasma & post inflammatory hyperpigmentation.
- **Niacinamide 4% -** Prevents transfer of melanosomes from melanocytes to epidermal keratinocytes.
- **Magnesium ascorbyl phosphate 2% -** Excellent water soluble Vitamin C prevents the generation of free radicals which are instrumental in encouraging melanin synthesis.
- **Liqorice extract 2% -** Tyrosinase Inhibitor reducing melanin synthesis.

- **Salicylic acid 2% -** Mild keratolytic & anti-inflammatory agent reducing trigger chemicals that stimulate melanocytes to make melanin.

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How It Works?

Tyrosinase is the key rate limiting enzymes which acts on two stages of melanin synthesis.

- Beta arbutin, Dioic acid, Liqorice extract & Magnesium ascorbyl phosphate (MAP) all *reduce* the activity of tyrosinase.

- Niacinamide works after the making of melanin & prevents its transfer from melanocytes which are deep in the epidermis to keratinocytes.

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Indications For Lightenex® Bright

- Epidermal pigmentation (woods lamp positive).
- For depigmentation therapy of the epidermis before laser treatment of deep dermal pigmentation.
- Superficial melasma and maintenance after intermediate chemical peel.

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Directions

Step 1 Wash the area to be treated. Exfoliate with a gentle face scrub.

Step 2 Massage cream into the skin until fully absorbed (apply twice daily).

Step 3 Apply Sun Blockex ® Max SPF 50, ten minutes after applying the Lightenex® Bright cream.

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How quickly does Lightenex® Bright work?

❖ **4-6 weeks** are required to see the first benefit.

i.e. The time taken for epidermal cells to travel to the surface and be shed.

Better results are achieved with continued use

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Lightenex® Bright

- Superficial hyperpigmentation & melisma
- Before laser treatment of deep dermal pigmentation
- Maintenance cream, once hyperpigmentation is cleared

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Niacinamide

A 138 (one hundred and thirty eight) subject clinical trial using 5% and 2% Niacinamide as well as detailed in-vitro studies showed:

- Niacinamide gave **35-68% inhibition of Melanosome** transfer in the co-culture (melanocyte/keratinocyte) model
- Niacinamide significantly:
- Decreased hyperpigmentation
- Increased skin lightness

(compared with vehicle alone after 4 weeks of use).

Reference (6) : Hakozaki,T.,Minwalla,L.,Zhuang,J.,ChhoaM.,Matsubara,A.,Miyamoto,K.,GreatensA.,Hillebrand,G., Bissett D,and Boissy,R.(2002),The effect of Niacinamide on reducing cutaneous pigmentation and suppression of Melanosome transfer.British Journal of Dermatology,147:20-31.doi:10.1046/j.1365-2133.2002.04834.x

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Octadecenedioic 2%
(Dioic acid) (Study 4)

An open comparative study of ninety six (96 female) Melasma patients in a 12 week study between:

Dioic Acid 1% & Hydroquinone 2% showed:

- ❖ more pruritus with hydroquinone
- ❖ Dioic acid as effective as Hydroquinone

Efficacy of Dioc (Octadecene-dioic acid)compared with Hydroquinone in the treatment of Melasma.Int J Dermatol.2009Aug;48(8):893-5. Tirado-Sanchez A,Santamaria-Roman A,Ponce-Olivera RM.

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Dioic acid 2% (study 1)

A twenty patient placebo study on patients of Indian and Pakistani origin given Dioic acid 2% over 8 weeks showed:

- A significant **reduction in melanin** ($p<0.025$) measured both by chromameter & mexameter.

The Melanogenesi s &mechanisms of skin lightening agents, existing & new approaches. Inter Jour of Cosmetic Science ,Volume 33,issue 3 June, pages 210-221.J M Gillbro,M J Olsson.

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Dioic acid 2% (study 2)

In-vitro studies using Dioic acid 2% in melanoma cells showed:
It binds to PPAR -gamma receptors on melanocytes to:

- Reduce Tyrosinase mRNA production by **54%**
- Reduce tyrosinase production by **52%**
- Reduce melanin synthesis by **46%**

Int Journ of Cosmetic Science-2005,27,123-132.Anew mechanism of action for Skin Whitening agents:binding to PPAR.J W Weichers,A V Rawlings,C Garcia,C Chesne,P Balaguer,J C Nicholas, Corre&M D Gilbert.Uniqema Skin R&D,Gouda,The Netherlands.A V R Consulting Ltd,26 Shavington way,Northwich,Cheshire,UK.Endocrinologie Moleculaire et Cellulaire des Cancers,Montpelier,France.Lab Genetique et Developpement,CNRS UMR6061,Faculty of Medicine,University of Rennes,1-2 Leon Bernard Avenue,35043 Rennes ,France.

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Beta Arbutin (Study 1)

In vitro studies of human melanocytes exposed to Arbutin at concentrations below 300 µg/mL reported **decreased** tyrosinase activity and melanin content.

- Beta Arbutin is a glycosalated hydroquinone and directly competitively inhibits Tyrosinase &
- Beta Arbutin is slowly hydrolyzed by skin organisms to Hydroquinone which lightens the skin.

Inhibitory effects of arbutin-β-glycosides synthesized from enzymatic transglycosylation for melanogenesis, Biotechnology Letters, Volume 30, Number 4, 743-748, DOI: 10.1007/s10529-007-9605-1. So-Young Jun, Kyung-Min Park, Ki-Won Choi, Min Kyung Jang, Hwan Yul Kang, Sang-Hyeon Lee, Kwan-Hwa Park and Jaeho Cha

J Cosmet Dermatol, 2008 Sep;7(3):189-93. Hydrolysis of arbutin to hydroquinone by human skin bacteria and its effect on antioxidant activity.Bang SH, Han SJ, Kim DH.

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Magnesium Ascorbyl Phosphate (Study 5)

A Clinical Study using Magnesium Ascorbyl Phosphate 2% on a total of 34 patients with chloasma or senile freckles showed the lightening effect to be *significant* on 19 of the 34 patients.

- In addition 1.6% of the cream remained in the epidermis 48 hours after application.

Inhibitory effect of Magnesium ascorbyl phosphate on Melanogenesis in vitro and in vivo. Journal of American Academy of Dermatology.1996 Jan;34(1):29-33.Kameyama K,Sakai C,Kondoh K,Nishiyama S,Tagawa M,MurataT,Ohnuma T,Quigley J,Dorsky A,BucksD,Blanock K.Det of Dermatology,Kitasato University School of Medicine,Sagamihara,Japan

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Liquorice Extract

Glabridin is a component of Liquorice Extract.

This study investigated inhibitory effects of Glabridin on melanogenesis and inflammation.

The results indicated that Glabridin:

- Inhibits tyrosinase activity of melanoma cells at concentrations of 0.1 to 1.0 microg/ml
- Decreased specifically the activities of T1 and T3 tyrosinase isozymes.
- UVB-induced pigmentation and erythema in the skins were inhibited.

The inhibitory effect of glabridin from licorice extracts on melanogenesis and inflammation.Pigment Cell Res. 1998 Dec;11(6) 355-61, Yokota T, Nishio H, Kubota Y, Mizoguchi M.Basic Research Laboratory, Kanebo, LTD, Odawara, Kanagawa, Japan.

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Lightenex® Bright

In an Independent study of 50 volunteers with woods lamp positive (Epidermal only) hyperpigmentation between the ages of 32-66, Lightenex® Bright was applied twice daily for period of 8 weeks. This test was conducted on face & torso (decollagete) skin.

The tests showed:

- Absence of redness or peeling
- Was well absorbed
- 68% of volunteers felt a SIGNIFICANT improvement whereas 32%felt average improvement in hyper-pigmentation
- Average measurable reduction of melanin of 40% (Mexameter 18)
- 56% of volunteers felt the product was VERY GOOD.24% (12) felt it was the same as the ones upto now.8 (16%) felt it was GOOD and 2 felt no change.

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Conclusion

Lightenex® Bright Works

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