

Care
Creations™



Biophytex™

A booster of microcirculation to
improve evenness of skin tone

Beauty Creations
The Passion for Beauty

**BASF**
The Chemical Company

Biophytex™

Visibly improved skin complexion and a younger, healthier appearance

Skin and microcirculation: a healthy complexion by stimulation of the peripheral blood flow

Insufficient microcirculation and capillary fragility are common phenomena that can lead to various visible and perceivable consequences in the skin. Due to the permeability of the blood capillaries, blood and hemoglobin can leak out and stagnate or pool in the surrounding tissue (also called blood stasis). This can give a dark hue to the skin, especially in those areas where the skin is thin, for example under the eye. When the capillary walls become damaged or are fragile, the capillaries can become dilated, making them more visible at the surface, such as in the case of spider veins (also known as couperose).

In addition slow peripheral blood circulation may lead to inadequate elimination of waste products from cell metabolism from the surrounding tissue, puffiness etc...

These conditions can be hereditary, but they can be aggravated by extrinsic factors such as:

- prolonged sun or sun bed exposure. UV and IR irradiation increase the dilation of blood vessels,
- sudden temperature changes,
- exposure to extreme climatic conditions,
- hormonal influences (pregnancy and menopause),
- lifestyle; alcohol consumption, stress, lack of sleep, smoking.

The two main visible consequences are:

- **spider veins** or couperose, a chronic skin condition, sometimes accompanied by local inflammation, leading to esthetically unpleasing facial redness (either diffuse red blotches or a visible network of dilated capillaries = telangiectasia).
- **dark circles**, dark 'shadows' under the eyes resulting in an uneven and unhealthy looking complexion.

In some cases these visible effects are accompanied by skin irritation or discomfort, such as a feeling of tension and local warmth, especially in the case of sensitive skin. BIOPHYTEX™ is a strengthener of blood vessels, able to decrease the permeability of capillaries and to reinforce their resistance, thereby reactivating the microcirculation. As a result the appearance of red blotches and spider veins is reduced and dark circles under the eyes are diminished. The overall skin complexion and skin color are more homogeneous, giving a younger and healthier appearance. In addition, skin comfort, especially of sensitive skin, is increased.

Definition / Composition

Biophytex™ LS 9832 is a synergistic complex of yeast extract (*Saccharomyces cerevisiae*) and extracts/derivatives of 5 plants:

	Anti-inflammatory	Stimulation of microcirculation	Soothing
Butcher's broom (Ruscus aculeatus)	+ Saponosides	++ Saponosides	
Hydrocotyle (Centella asiatica)	+ Flavonoids		+
Marigold (Calendula officinalis)			Flavonoids
Horse Chestnut (Aesculus hippocastanum)	** Flavonoids Saponosides (escine)	** Flavonoids Saponosides (escine)	+ Flavonoids Saponosides (escine)
Saccharomyces cerevisiae			+
Liquorice (Glycyrrhiza glabra)	*** Saponosides Glycyrrhizic acid glycyrrhizic acid		+

- Butcher's broom (*Ruscus aculeatus*) root extract,
- Hydrocotyle (*Centella asiatica*) leaf extract,
- Marigold (*Calendula officinalis*) flower extract,
- Horse Chestnut (*Aesculus Hippocastanum*) seed extract,
- Ammonium glycyrrhizate from licorice (*Glycyrrhiza glabra*) roots.

Rich in saponosides and flavonoids, Biophytex™ protects the blood capillaries, reinforces their tonicity and has an overall skin soothing, calming effect.

Skin benefits

Thanks to the synergistic action of its different components, Biophytex™ improves skin problems linked to capillary fragility and reduced microcirculation on the face in general and in the under eye area specifically.

This effect is obtained by:

- reinforcement of the capillary walls,
- improvement of microcirculation.

Resulting in:

- reduction of spider veins,
- reduction of dark circles,
- skin soothing, calming.

Cosmetics use

Face care applications:

- skin care for reduction of spider veins/couperose,
- care for sensitive/reactive skin,
- aftershave products.

Eye contour applications:

- products for the reduction of dark circles,
- anti-aging eye care,
- concealers.

Dosage / Solubility / Mode of incorporation

1. Dose of use: 2 - 5%

2. Solubility: soluble in water, insoluble in oils and fats.

3. Mode of incorporation: Biophytex™ must be introduced in the finishing process below 50°C or at room temperature for cold processing.

Optimal pH: 5 – 7.

Analytical characteristics

1. Aspect: amber liquid with a weak odor.

2. Specifications: upon request.

3. Preservatives: none.

Tolerance

Good.

Efficacy

Efficacy tests hereafter.

Storage

In its original packaging, at 15 - 25°C.

INCI name

Biophytex™ LS 9832: Water (and) Butylene Glycol (and) Panthenol (and) Escin (and) Glycerin (and) Ruscus Aculeatus Root Extract (and) Ammonium Glycyrrhizate (and) Centella Asiatica Extract (and) Hydrolyzed Yeast Protein (and) Calendula Officinalis Flower Extract

Anti-couperose (clinical test)

Aim

To evaluate the anti-couperose/reduction of spider veins effect of a cream containing 3% Biophytex™ in comparison to a placebo cream, on 8 female volunteers having couperose on the cheeks and visible telangiectasias.

Protocol

Double blind study during 2 weeks, randomized applications twice a day (morning and evening) after washing of the face of:

- placebo cream on one half of the face,
- cream containing 3% Biophytex™ on the other half of the face.

Before and after treatment:

- semi-quantitative clinical evaluation by a dermatologist of the intensity of erythrosis (redness) and the number of telangiectasias (semi quantitative scale: 0 = none to 6 = very high),
- visualization of the superficial micro-circulation by videomicroscopy and quantification of the number of visible capillaries.

Results

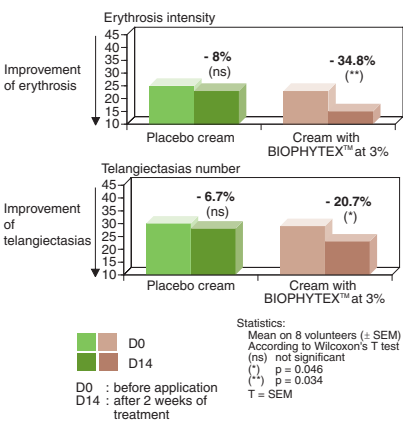


Fig. 1 – Semi-quantitative evaluation by a dermatologist.

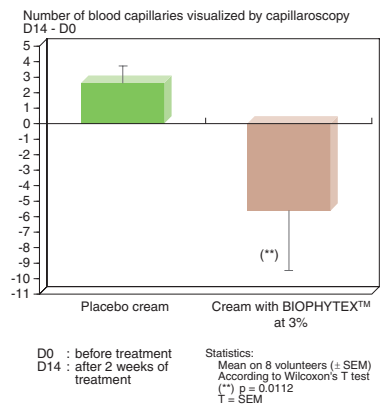


Fig. 2 – Number of blood capillaries visualized by capillaroscopy and measured by image analysis.



Conclusion

The application of a cream containing 3% Biophytex™ on the face for 2 weeks has significantly and visibly improved the aspect of the skin: micro-vessels are less visible; the skin color is more uniform. The treatment has well decreased the signs of skin fragility and irritability.

Anti-eye dark circle effect (clinical test)

Aim

To evaluate the anti-dark circle effect of a cream containing 3% Biophytex™ in comparison to a non-treated side.

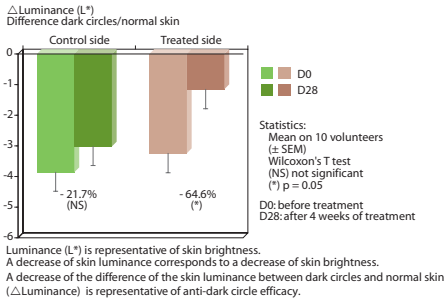
Protocol

Test carried out in double blind under dermatological control on 10 female volunteers with clearly visible dark circles below the eyes.

Application of a cream containing 3% Biophytex™ twice a day (morning and evening) during 4 weeks on one half of the face chosen at random by each volunteer. The non-treated side corresponds to the control side.

The anti-dark circle effect was evaluated quantitatively by chromametry and by digital photography.

Results



After 4 weeks of treatment on the right side and without treatment on the left side

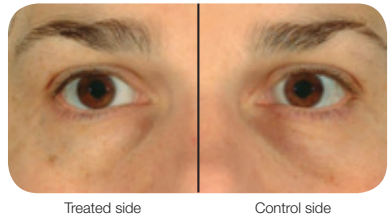


Fig. 3 – Difference of the luminance dark circle skin / normal skin.

Conclusion

After 4 weeks of treatment of the eye contour zone with a cream containing 3% Biophytex™, dark circles have significantly decreased: the under eye area is smoother and has a lighter and more homogeneous color. The general appearance of the face is fresher, healthier and more relaxed.

Skin soothing (clinical test)

As microcirculation disorders are more critical in the case of sensitive skin (skin redness is often linked to a skin discomfort such as local warmth and stinging sensations), we have evaluated the efficacy of Biophytex™ on volunteers with sensitive skin.

Biophytex™ has a dual activity. It acts as booster of microcirculation and as soothing agent for sensitive skin.

Aim

To evaluate the soothing effect of an emulsion with 5% Biophytex™ in comparison to before treatment on dry and sensitive skin.

Protocol

Panel of 15 female volunteers, between 30 and 50 years old, with dry and sensitive skin especially towards climatic conditions.

Bi-daily application of an emulsion with 5% Biophytex™ on the face, including eye contour, during 3 weeks.

Subjective evaluation of skin parameters before and after treatment by the volunteers.

Stinging test with 5% lactic acid before and after the application period, to evaluate the degree of skin reactivity (Frosh and Kligman lactic acid stinging test).

Results

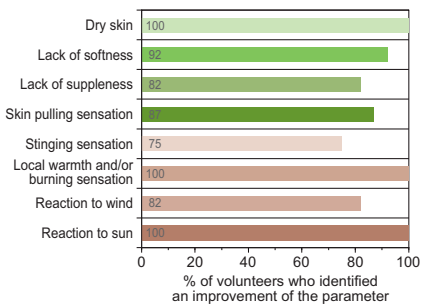


Fig. 4 – Subjective evaluation of the volunteers.

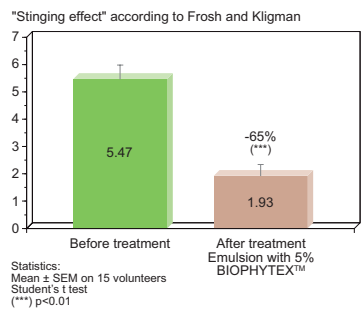


Fig. 5 – Local soothing effect of Biophytex™, measured by lactic acid test according to Frosh and Kligman.

Conclusion

The emulsion with 5% BIOPHYTEX™ provides a good improvement of skin tolerance, and increases skin moisturization and suppleness.

As a result of the treatment of the skin with the emulsion containing 5% Biophytex™, the intensity of the stinging reaction after application of lactic acid was decreased by 65%. Positive results were obtained with 94% of the volunteers.

General conclusion

Biophytex™ confirmed its value as a booster of microcirculation and as a skin tolerance enhancer.

Above tests have shown that the negative effects of poor microcirculation in the skin are reduced: spider veins and red blotches are decreased, dark circles are diminished and overall skin complexion appears more homogeneous.

Reactive and sensitive skin is perceivably soothed and comforted, resulting in an even and healthy skin tone.

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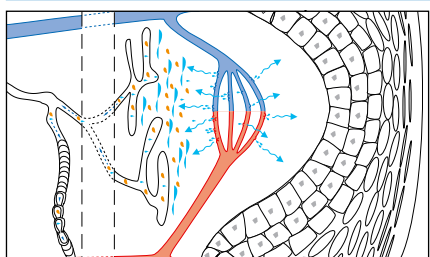
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Патент N° WO 03/068141

EYELISS™



Образование отека

Действие:

Помогает сократить и предотвратить появление мешков под глазами

Описание:

Комбинация трех активных молекул: гесперидинметилхалкона, Дипептида VW и липопептида Pal-GQPR

Свойства:

Гесперидинметилхалкон: уменьшает проницаемость капилляров.

Дипептид Валил-Триптофан (VW): увеличивает циркуляцию лимфы.

Липопептид Pal-GQPR: увеличивает упругость и эластичность кожи, уменьшает воспаление.

Характеристика:

Благодаря сочетанию трех активных веществ, Eyeliss™ обладает способностью глобально решать проблему мешков под глазами путем воздействия на физиологические параметры.

Состав INCI:

Aqua (Water) – Glycerin
– Hesperidin Methyl Chalcone
– Steareth-20 – Dipeptide-2
– Palmitoyl Tetrapeptide-7*

* former INCI name: Palmitoyl Tetrapeptide-3

Применение:

Все продукты (кремы, гели, лосьоны) направленные на лечение мешков под глазами.

Введение в рецептуру:

Растворим в воде. Вводить при температуре 45°C в эмульсии и при комнатной температуре в гели.

Рекомендуемая концентрация:
3%

лечение МЕШКОВ под глазами

для Ваших Глаз

Положительные результаты для

70%

волонтеров



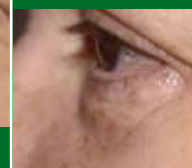
ДО



После



ДО



После



ДО



После



In vitro тесты

Противовоспалительный эффект пептида Pal-GQPR

Уменьшение количества ИЛ6, синтезируемого кератиноцитами в ответ на УФ

Стимулирование дренажа дипептидом VW

Ингибирование Ангиотензин Конвертирующего Фермента (АКФ)

In vitro

● **-33%** с 3% Eyeliss™

● **85%** с 1% Eyeliss™

Ex vivo тест

Влияние гесперидинметилхалкона на проницаемость капилляров

Ex vivo

● **-25%** проницаемости капилляров

Клинические исследования

20 женщин-волонтеров, в возрасте от 40 до 60 лет, хронически имеющие мешки под глазами.

Дважды в день в течение 56 дней применяли гель, содержащий 3% Eyeliss™

3D морфометрические измерения методом проекции полос в дни T0, T28 и T56

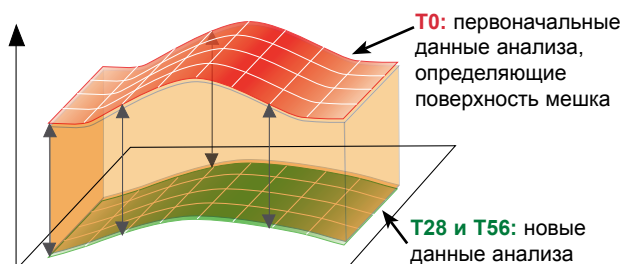
● **Морфометрические измерения**

Значимые результаты	T28	T56
Среднее уменьшение мешка под глазами (мм)	-0,08	-0,20
Максимальное значение (мм)	-0,40	-0,69
Число волонтеров с уменьшением объема мешков	65%	70%

● **Субъективные оценки**

Разглаживание контура глаз	62%
Уменьшение мешков	52%
Противоотечный эффект	52%

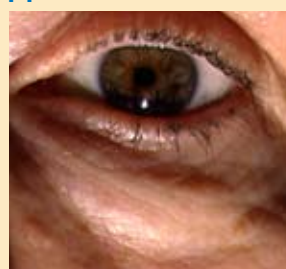
Принцип 3D Морфометрического измерения



Программа измеряет расстояние между поверхностью мешка до и после лечения.

In vivo

До лечения



После лечения



Рецептура

Гель для лечения мешков под глазами с EYELISS™

Рецептура для тестирования № SED0107234D

Часть А	%
Water deionised	qs 100
Ultrez 10 (Carbomer)	0.20
Часть В	%
Glycerin	5.00
Preservatives	qs
Часть С	%
Hydroxyethyl Cellulose	0.20
Часть D	%
Pemulen TR2 (Acrylates / C10-30 Alkyl Acrylate Crosspolymer, BF Goodrich)	0.20
Crodamol CAP (Cetearyl Ethylhexanoate, Croda)	6.00
Часть Е	%
Potassium sorbate	0.10

Часть F	%
Water deionised	4.00
Sodium hydroxide 30%	0.46
Часть G	%
EYELISS™ (Sederma)	3.00
Часть H	
Crillet 1 (Polysorbate 20, Croda)	0.50
Fragrance	qs

Способ приготовления

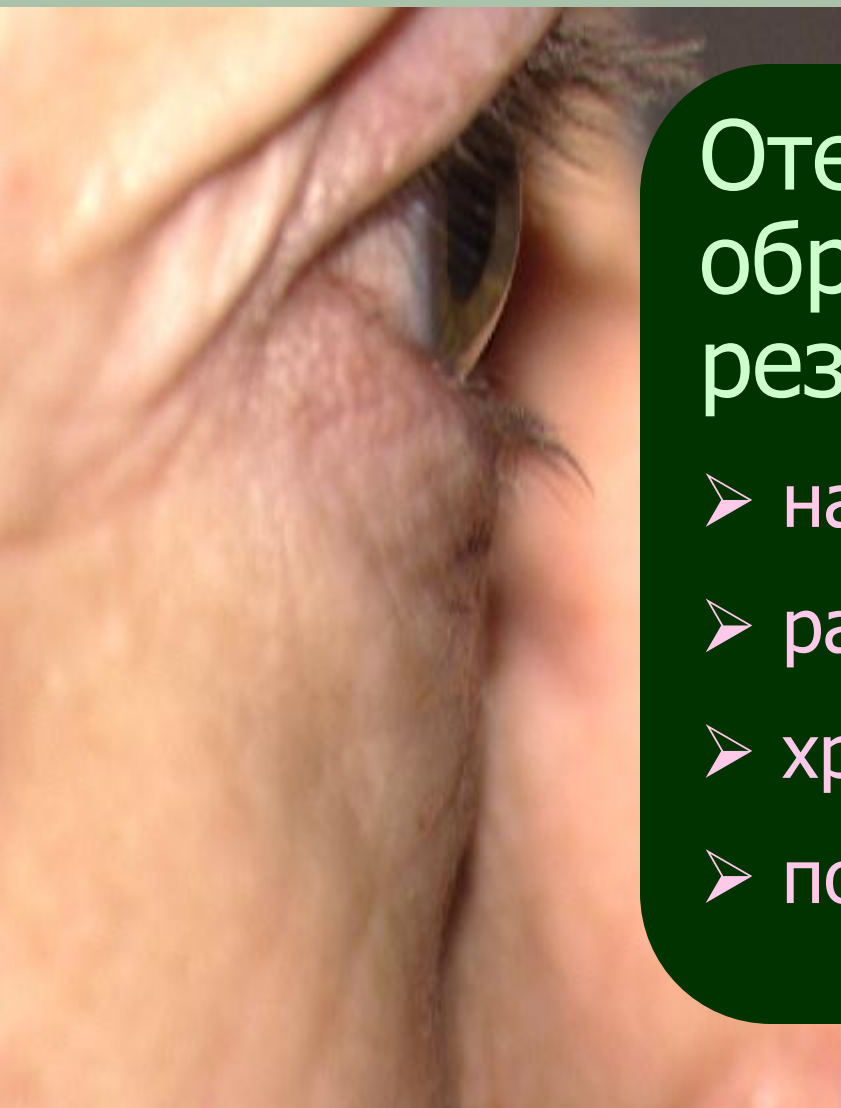
Высыпать Ultrez 10 в воду и оставить для набухания на 15 минут. Часть В: нагрейте глицерин до 60°C, растворите консерванты. Охладите до 40°C. Смешайте Часть С и Часть В, гомогенизируйте. Затем к Часть В+С добавьте Часть А, перемешайте. Оставьте при помешивании на 1 час. Добавьте Часть D, затем Часть Е, гомогенизируйте. Нейтрализуйте Частью F. Оставьте при помешивании на 1 час. Введите Часть G, гомогенизируйте, затем введите Часть H.

Негарантия: Этот состав подвергался ограниченному числу тестов на стабильность, однако проявил себя хорошо. Необходимо провести тест на долговременную стабильность и функциональность. Рекомендуется проводить тесты безопасности на всех рецептурах до выпуска продукта. Способы применения не должны рассматриваться, как мотивы для нарушения существующих патентов.



EYE LISS™

Радикальное лечение
отеков под глазами



Отеки под глазами образуются в результате:

- нарушения лимфодренажа
- раздражений и воспалений
- хрупкости стенок сосудов
- потери упругости кожи

EYELISS™

Активная композиция EYELISS®:

Плохой дренаж дипептид Валил-Триптофан

Хрупкость сосудов гесперидин метил халькон

Дряблость кожи }
Воспаление } palmitoyl Gly-Gln-Pro-Arg

EYELISS™



Липопептид Pal-Gly-Gln-Pro-Arg
восстанавливает упругость и
эластичность, и снимает
воспаление

Гесперидин метил халькон
снижает проницаемость
капилляров

Дипептид Val-Trp
улучшает циркуляцию лимфы

EYELISS™

Доказательство эффективности

EYELISS®: ТЕСТ IN VIVO

Гесперидин метил халькон: публикации

Исследования *ex vivo*

Исследования *in vivo*

Дипептид Валил-триптофан

Тест *in vitro*

Palmitoyl Gly-Gln-Pro-Arg

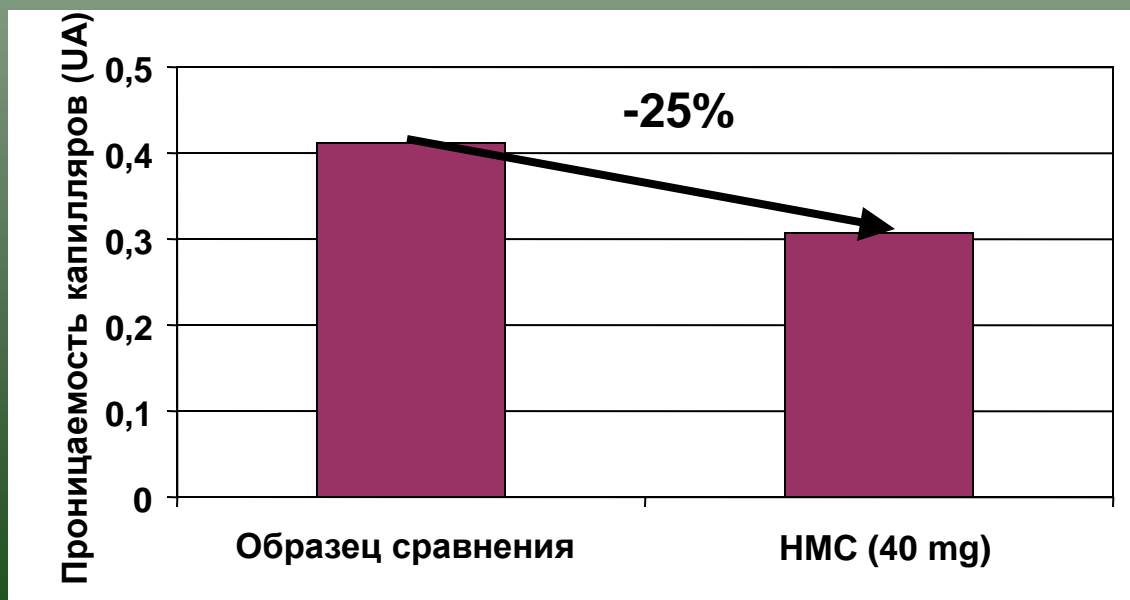
Тест *in vitro*

EYELISS™

Гесперидин метил халькон (НМС) – опубликованные данные

Исследования *ex vivo*: эффективность НМС против хрупкости капилляров

Публикации Tarayre и Laouessergues, 1976

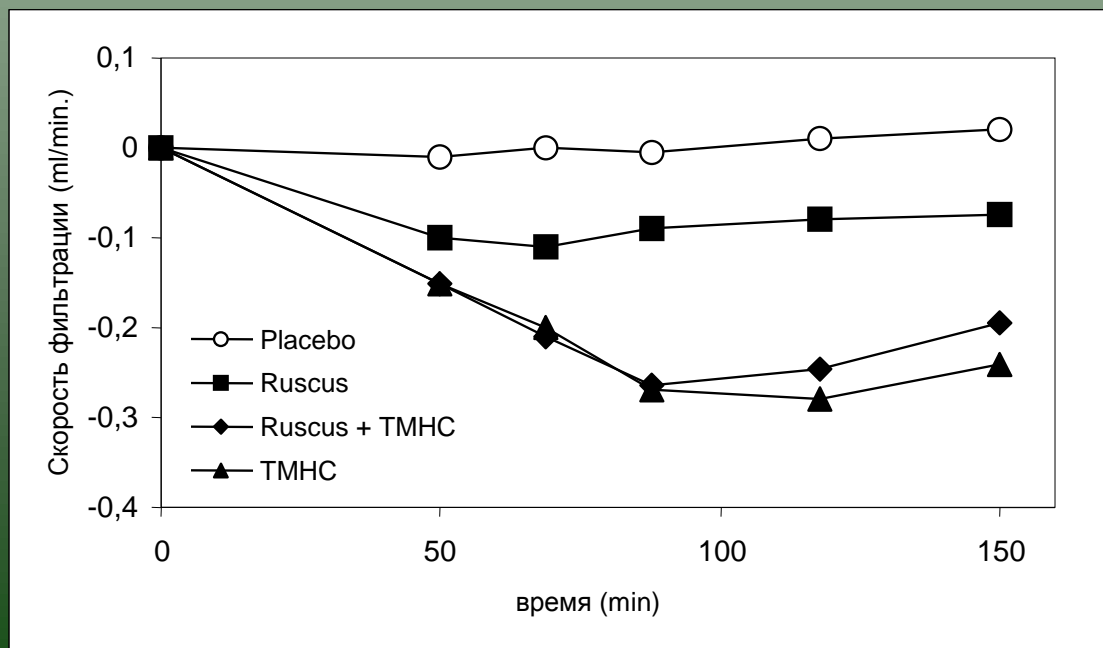


EYELISS™

Гесперидин метил халькон (НМС) – опубликованные данные

Исследования *in vivo*: эффективность НМС против хрупкости капилляров

Публикация Von Rudofsky, 1989



EYELISS™

Влияние дипептида Valyl-Tryptophane на отток лимфы, через ингибирование энзима ACE (angiotensin converting enzyme)

Valyl-Tryptophane



ACE

bradykinine



bradykinine

в неактивной форме



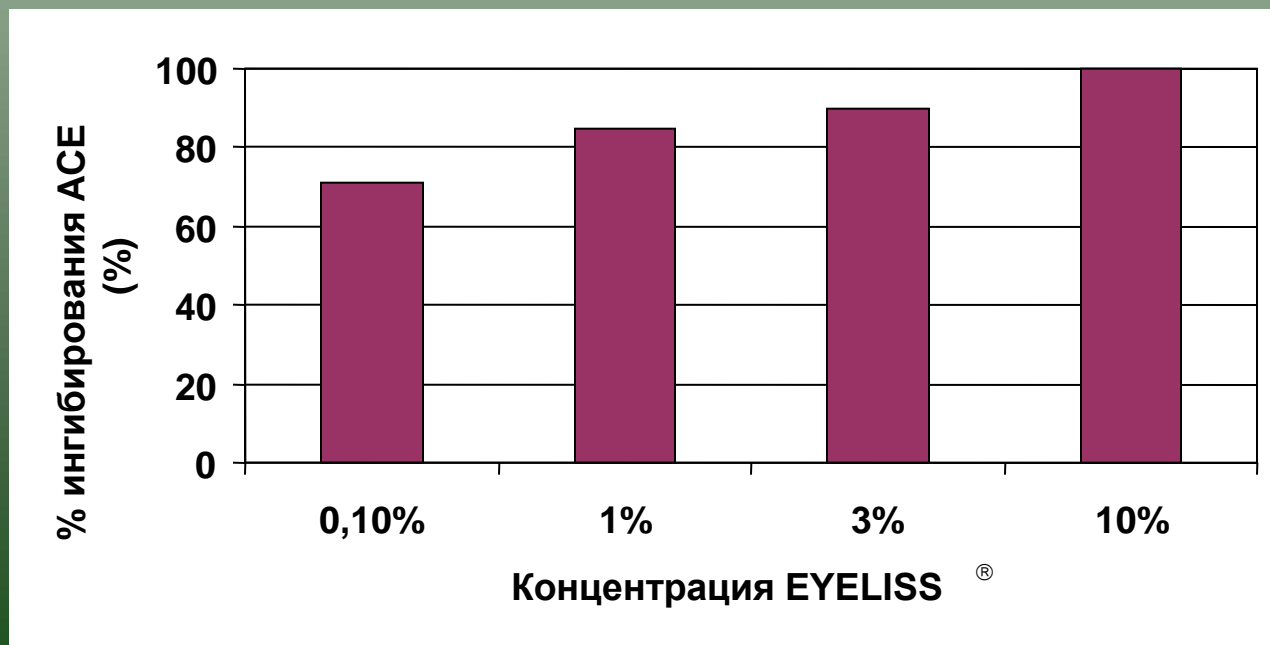
лимфодренаж

EYELISS™

ИССЛЕДОВАНИЕ *IN VITRO*

Влияние дипептида Валил-триптофан на лимфодренаж

Оценка ингибирования АСЕ дипептидом Val-Trp



EYELISS™

Противовоспалительный эффект липопептида Pal-Gly-Gln-Pro-Arg

Регулирование количества ИЛ-6 (интерлейкинов)
Исследование на культуре кератиноцитов, оценка количества образовавшегося под влиянием УФ-излучения ИЛ-6 по сравнению с исходным количеством

	Исх. кол-во	Под вл. УФ
10 ppm	-15%	-33%
15 ppm	-20%	-37%
30 ppm	-25%	-60%

10 ppm - эквивалентно 3% EYELISS®

EYELISS™

ТЕСТИРОВАНИЕ *IN VIVO*

- Измерение величины отеков под глазами с помощью топометрии (методика проекции полос).
- 20 волонтеров женского пола, в возрасте от 40 до 60, применяли гель с содержанием EYELISS™ – 3% дважды в день в течение 56 дней

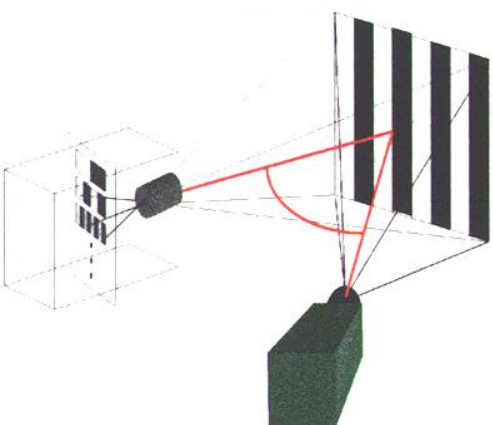


FIG 1 : Video camera coupled to a fringes projection system

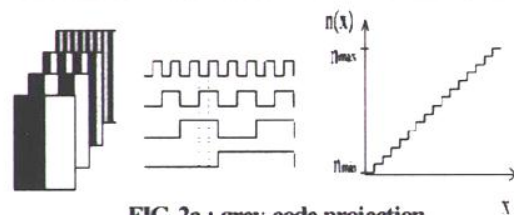


FIG 2a : grey-code projection

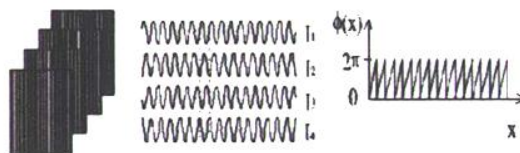


FIG 2b : Fringe projection - Phase shift

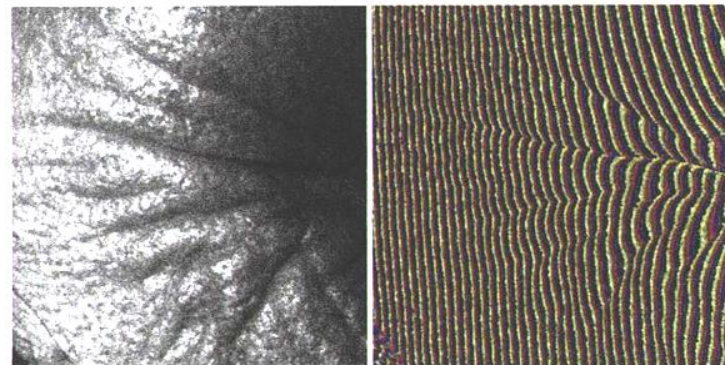


FIG 3a : Video image of the crow's feet

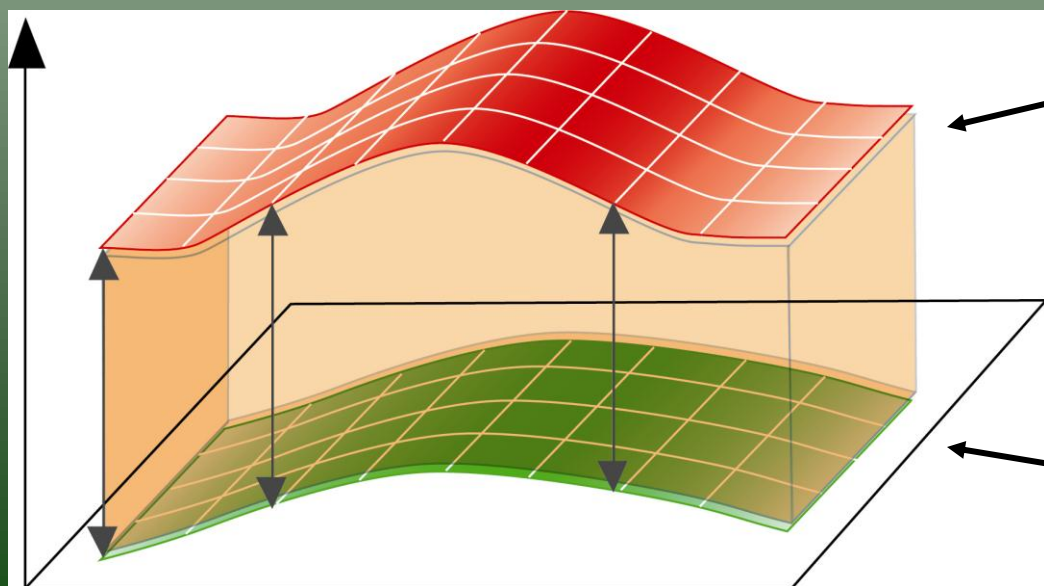
FIG 3b : Phase image

EYELISS™

ТЕСТИРОВАНИЕ *IN VIVO*

Принцип

Измерение расстояния между поверхностями
«мешка» до и после лечения



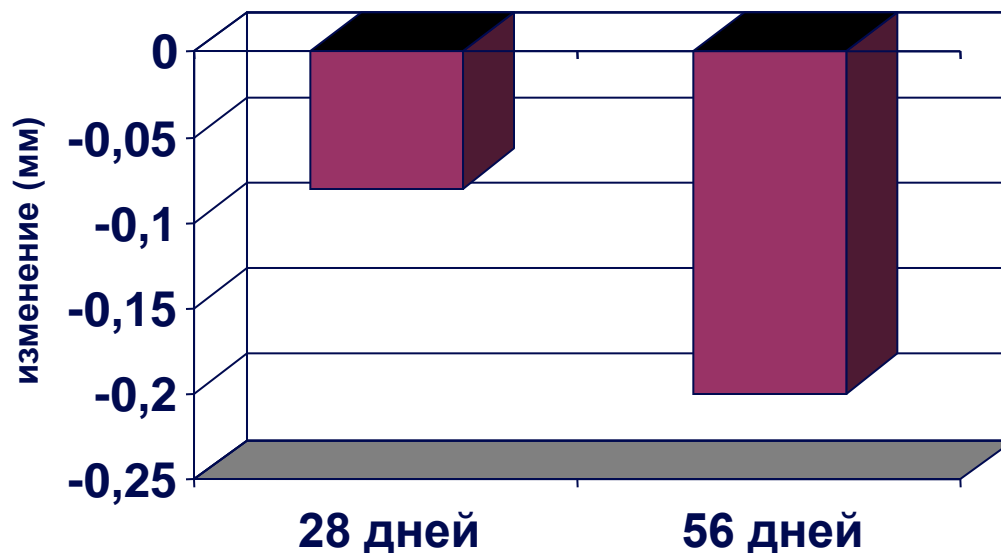
Поверхность «мешка»
до лечения

Поверхность «мешка»
после лечения

EYELISS™

Результаты

	28 дней	56 дней
Среднестатистическое уменьшение величины мешка	-0,08 мм	-0,20 мм
Максимальная величина	-0,40 мм	-0,69 мм
Число волонтеров с положительной динамикой	65 %	70 %



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ДО



Д56



Вол. № 1

Вол. № 2

Вол. № 3

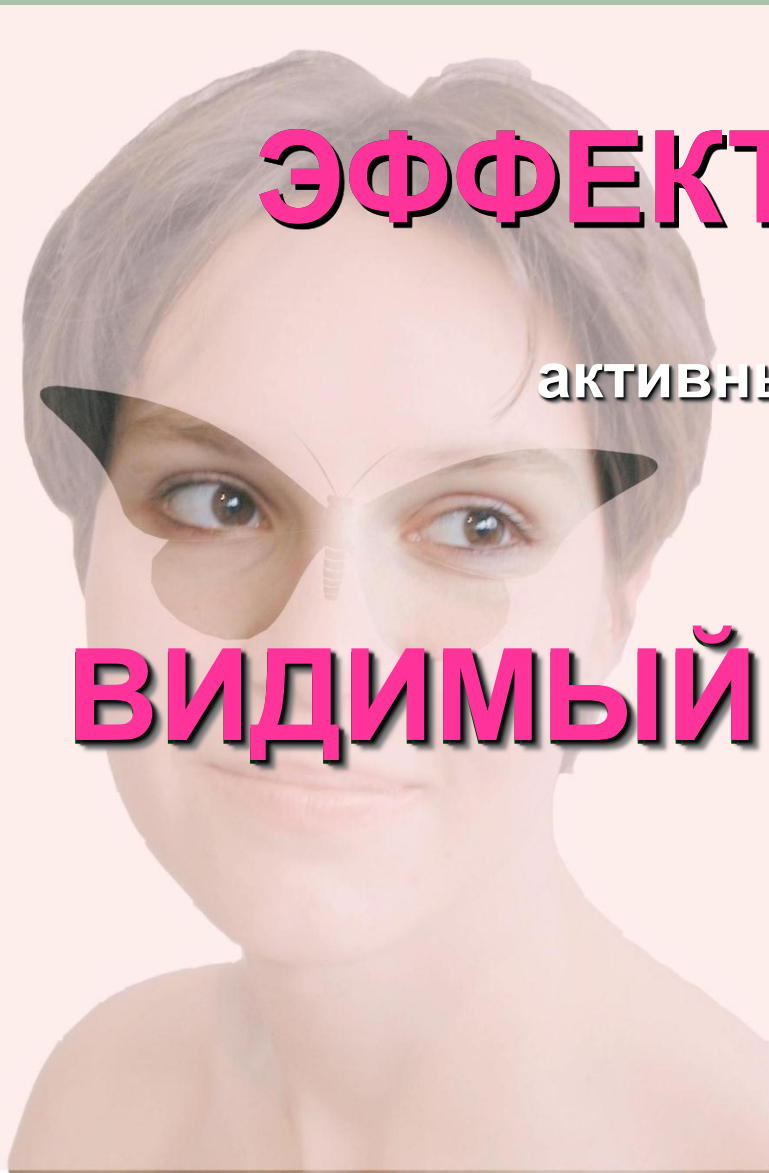
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