A Tetrapeptide with a recognised efficacy against puffy eyebags

**Description**
Tetrapeptide with anti-oedema properties with a proven efficacy in reducing puffy eyebags.

**Appearance**
Transparent solution containing 0.1% active ingredient.

**INCI**
Water (Aqua), Acetyl Tetrapeptide-5. Please contact us for information on the preservative system.

**Properties**
Anti-eye bag and anti-dark circle activity, with a draining and decongesting effect.

**Applications**
eyeseryl® can be incorporated in cosmetic formulations where a reduction of puffiness under the eyes is desired.

**Science**
As skin loses its elasticity and muscles weaken through age, loose skin can accumulate around the eyes, forming eyebags. Water accumulation is another reason for puffy eyes, also known as eyelid oedema. This accumulation is due to several vascular deseases, such us a poor lymphatic circulation or an increased capillary permeability. eyeseryl® fights against oedema-forming mechanisms and shows a decongesting effect, enhancing elasticity and skin smoothness.

**Dosage**
1-10%

**Solubility**
Water soluble.
In vitro efficacy

- **Glycation inhibitory activity**
  Collagen cross-linking, as a result of a glycation reaction, is one of the main causes of the formation of eye bags. The inactivation of SOD (Superoxide Dismutase) by its reaction with fructose is used as a model of glycation.

  ![Graph showing SOD inhibition](image)

  *eyeseryl® prevents collagen cross-linking*
  Inhibition of collagen glycation avoids losing elasticity and subsequent eye bags formation.

- **Vascular permeability inhibition**
  Test performed in a tissue culture plate using an assay kit, which allows the evaluation of the effects of chemicals on endothelial cell permeability. *eyeseryl®* is able to inhibit vascular permeability in a dose-dependent manner.

  ![Graph showing vascular permeability](image)

In vivo efficacy

Group of 20 female volunteers, aged 18 to 65.
Application of a cream containing 10% *eyeseryl®* Solution under the eyes, twice a day, during 60 days.

- **Anti-eye bag activity (dermatological evaluation)**

  ![Images showing eye bags](image)

  *days 0 to 14*

- **Skin elasticity (quantitative evaluation)**
  The elasticity measurements were performed with a Cutometer®. Elasticity represents the recovery degree of the maximum deformation of the skin reached.

  ![Graph showing skin elasticity](image)

A cream containing 1% *eyeseryl®* Solution was applied twice daily during 28 days on 17 people, aged 34 to 54.

- **Variation in puffiness**
  Eyebag volume was measured using a technique called Fringe Projection.

- **Anti-dark circle effect**
  High resolution photographs of the dark circles were taken under polarised light and chromametry studies were performed.
  The ITA® (Individual Typological Angle) categorizes skin colour:

  ![Table showing skin colour categories](image)

  L* is luminance which represents relative brightness from total darkness (L*=0) to absolute white (L*=100).

  *eyeseryl® Solution 10%

Puffy eye bags reduction in only 14 days

Skin elasticity had a 30% increase after 30 days

Eyebags were reduced in 70% of the volunteers after 28 days with 1% *eyeseryl®* Solution

Decrease of dark circles under the eyes
ITA® and L* values significantly increased showing a slight lightening effect.

Lipotec Group