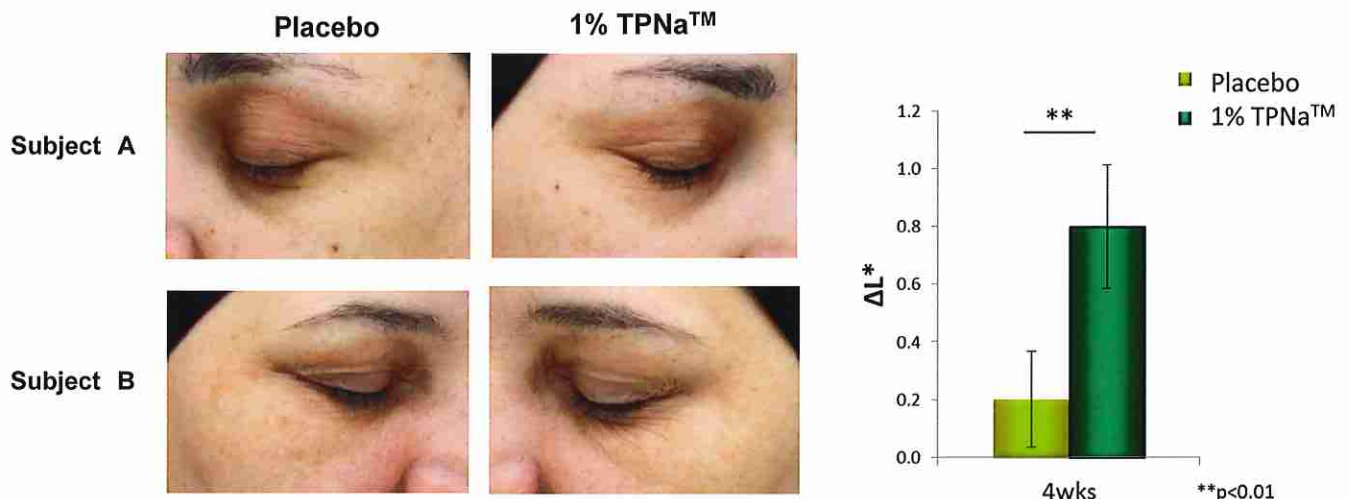


TPNa™ for eye care



Efficacies

Remarkable effective examples after 4 weeks



Rate of subjects with improvement of L* parameter after TPNa™ application 82%

Anti-dark circle effect of TPNa™

21 Caucasian female subjects, aged between 31 and 49 years old with dark circles in the eye area, applied a placebo cream and a cream containing 1% TPNa™ on the each hemi-face twice a day for 4 weeks. The anti-dark circles effect is assessed by measurement of cutaneous color of each eye area using colorimeter (MINOLTA CM700-d Spectrocolorimeter) and image analysis.

After a 4-week treatment, TPNa™ at 1% increased the L* parameter significantly compared to placebo. The remarkable increase of L* parameter was observed in 82% of the subjects and no subject felt the stimulation and unpleasantness of examination products during 4 weeks.

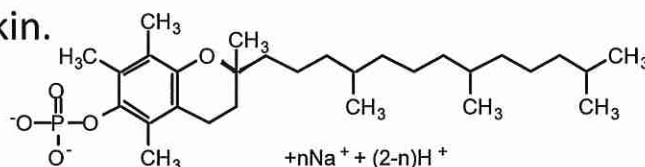
According to the questionnaire after the examination, subjects more than half noticed the improvement of dark circles around eyes and moisturizing effect of the skin, and wanted to continue using 1% TPNa™ cream.

TPNa™ for eye care



TPNa™ (Sodium dl- α -tocopheryl phosphate) is a water-soluble powdery vitamin E. The oxygen-sensitive hydroxyl group of tocopherol is chemically modified and protected with a phosphoryl group. Once absorbed in skin, TPNa™ is readily converted to the active tocopherol via hydrolysis catalyzed by phosphatase, a ubiquitous enzyme in skin.

Trade Name: TPNa
INCI: Sodium Tocopheryl Phosphate



Dark Circles around Eyes



Characteristics around eyes and factors of dark circles

The thinnest skin of the body

- Visibility of capillary blood vessels under the thin skin
- Poor blood circulation

- Accumulation of blood origin pigments
- Overproduction of melanin

- Inflammation caused by stress, asthenopia or seasonal allergies

- Dry skin due to less sweat glands, sebaceous glands, blink and rubbing eyes etc.
- Fine lines and rough texture

Low Skin barrier

Shape of face

- Shadows due to skeleton, lacrimal gland, tears bag or puffiness

Classifications of dark circles

Blue dark circles

Blown dark circles

Red dark circles

Outstanding of dark circles

Black dark circles

Effects of TPNa™

Improving blood circulation

Degradation of blood origin pigments

Prevention of inflammation

Moisturizing

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