**Reval-Eyes**

**BACKGROUND**

Known as the "windows to the soul," the eyes are often the first place to betray one's age. Collagen degradation, photo-exposure, environmental pollutants, even blinking and smiling can affect the sensitive skin around the eyes, accelerating the aging process. In the wake of these stressors, dark circles remain, and fine lines greatly detract from the overall appearance of the skin and face. With the area around the eyes constantly under siege, it is essential to take extra care in protecting and nurturing this sensitive skin.

The skin around the eyes is ten times thinner than the skin on the rest of the face. As we age, the collagen responsible for upholding the integrity of our skin begins to breakdown causing the skin to sag, easily affecting the sensitive skin around the eyes. Continual tugging, pulling and loss of elasticity eventually cause the skin to lose its elasticity. When both genetics and environmental pollutants are contributing to the aging of the eye area, it is important to employ appropriate measures to combat these variables.

**SCIENCE**

Dark circles are certainly one of the most undesirable effects of environmental stress on the periorbital area. These darkened areas can be caused by an increase in pigmentation due to alterations in melanogenesis. Melanogenesis is the process in which our cells create melanin, the pigment that provides color to our skin. Environmental stressors, such as UV radiation, stimulate the production of chemical messengers within the outer most layer of the skin called Alpha-Melanocyte Stimulating Hormone (αMSH). These messengers then stimulate the Melanocortin Receptor 1 (MC1R) which initiates a cascade of biochemical processes that lead to melanin production.

The Agouti Signal Protein or ASP, is an antagonist to αMSH which is capable of binding to the MC1R to prevent its stimulation by the αMSH. As a result, the addition of ASP helps block the melanogenesis that is stimulated by αMSH. Active Concepts developed a probiotic ingredient designed to function as an analogue to ASP. This novel material is derived from *Lactobacillus lactis* strains and is capable of reducing hyperpigmentation, thus reducing the appearance of dark circles.

Free radicals contribute to physical aging, thus it is essential to protect and revive the skin with powerful nutrients and skin-firming agents. Green tea is exceptionally rich in Proanthocyanidins, potent antioxidants that are twenty times more powerful than Vitamin C and fifty times more powerful than Vitamin E.

Pantothenic acid play a key role in the stabilization of collagen and maintenance of elastin, protecting the skin from environmental stressors, and improving capillary strength. By improving capillary strength, Proanthocyanidin rich Green Tea can reduce the leaking of blood that contributes to darkening in the periorbital area. Extracts of green tea also
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contain polyphenols such as catechin, gallogatechin, epicatechin, epigallocatechin, epicatechingallate and epigallocatechin gallate (EGCG). The antioxidant activity attributed to these polyphenols includes scavenging of the superoxide anion, hydroxyl and peroxy radicals and the inhibition of lipid peroxidation and oxidation of low-density lipoproteins. These radicals are all thought to increase the physical appearance of aging by breaking down capillary strength, leading to dark under-eye circles. **Revital-Eyes** contains a distinct pomegranate extract which is extracted along with its high molecular weight carbohydrates. When applied on the skin, this ingredient provides immediate tightening and lifting benefits that help reduce the appearance of sagging and wrinkles.

**BENEFITS**

Rich in nutrients and skin firming agents, **Revital-Eyes** is an inclusive and unique complex of probiotics, green tea, pomegranate and caffeine that helps reduce all signs of aging around the eyes including: the appearance of wrinkles, puffiness and dark circles, while toning the skin for a more youthful and rejuvenated look. Additional benefits of **Revital-Eyes** result from the incorporation of green tea extract and pomegranate extract. The inclusion of these two botanical extracts in **Revital-Eyes** provides consumer recognition enhancing the product's marketing appeal. Using green tea helps boost the ability of **Revital-Eyes** to protect the eye area from environmental damage while diminishing the appearance of dark, unsightly circles under the eyes. Collagen degradation occurs earliest around the eyes where skin is thinnest, making it imperative for products to treat the damage that causes bags under the eyes. By including caffeine in **Revital-Eyes**, the product has the ability to reduce puffiness and diminish the appearance of the bags that emerge under the eyes. Caffeine's vasoconstrictive properties help reduce puffiness due to the ability to make blood vessels smaller. Additionally, its diuretic properties help deflate puffiness, increase circulation and minimize dark circles that form under the eyes. Furthermore, caffeine also provides antioxidant benefits that aid in the reduction of photo-aging.

**EFFICACY DATA**

To test the efficacy of the **Revital-Eyes**, a three week in-vivo study was conducted. Ten subjects (m/f) between the ages of 24 and 45 were given a solution of 5% **Revital-Eyes**. They were asked to apply the product on the right periorbital area of their faces twice a day for 3 weeks. Pictures were taken at the start of the study and after the third week. As shown in figures 1 and 2, this product is capable of significantly reducing the appearance of bags under the eyes as well as dark circles after a 3 week period. As indicated with red ovals on both figures, wrinkles as well as expression lines were also significantly diminished by continued use of the product.

![Figure 1. Before and after pictures of subject #1 following application of a Revital-Eyes solution](image1)

![Figure 2. Before and after pictures of subject #1 following application of a Revital-Eyes solution](image2)