



## Yeast Radiance™

Biofraction designed to help brighten the appearance of skin

### Innovative yeast biofraction for a more radiant look

Brighter, evenly toned skin is often an element of a fresh, rejuvenated appearance, and the pursuit of this has been ongoing for centuries. Ancient Egyptians applied an ointment of alabaster and donkey milk to lighten their skin. The Romans whitened their complexion using chalk or white lead, and during The Renaissance, women pursued a transparent complexion. Today, consumers continue to look for ways to brighten their skin.

To meet this need, We developed Yeast Radiance™, a biofraction derived from yeast (*Saccharomyces*) that helps brighten the appearance of skin. Rich in essential amino acids and small peptides, which have strong nutritive properties, it provides an advantage over commonly used brightening technologies.

Skin color is typically determined by the amounts of melanin pigment produced in the epidermis. As consumers age, melanocytes, which make the pigment, function more erratically, leading to overproduction or uneven production that results in dark spots on the skin. To battle this phenomenon, consumers have had cosmetic options, some of which may not be ideal. Unlike other available cosmetic methods such as laser and peel treatments, which can be highly expensive and create discomfort, Yeast Radiance™ is a patent-pending ingredient for use in mass market products to brighten the appearance of skin.

### Applications

- Radiance enhancing products
- Skin brighteners
- Skin color unifying products
- Age spot products
- Anti-aging products
- Hand care products



### Features and Benefits

Helps brighten and even skin tone

Contains beneficial amino acids that have nutritive properties

Ecocert (compliant with guidelines; certification pending)

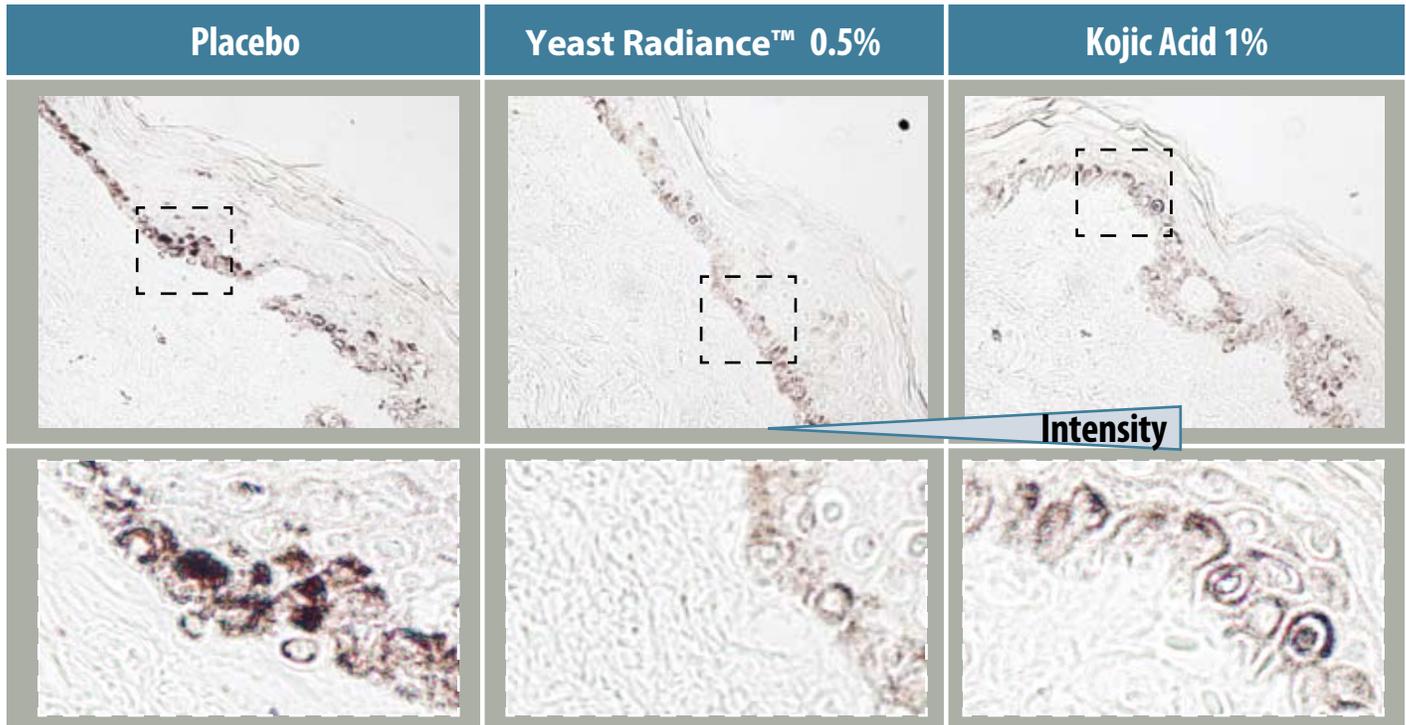
Derived from a natural ingredient (yeast)

## Ex-vivo testing

### Significantly improved efficacy over leading benchmark

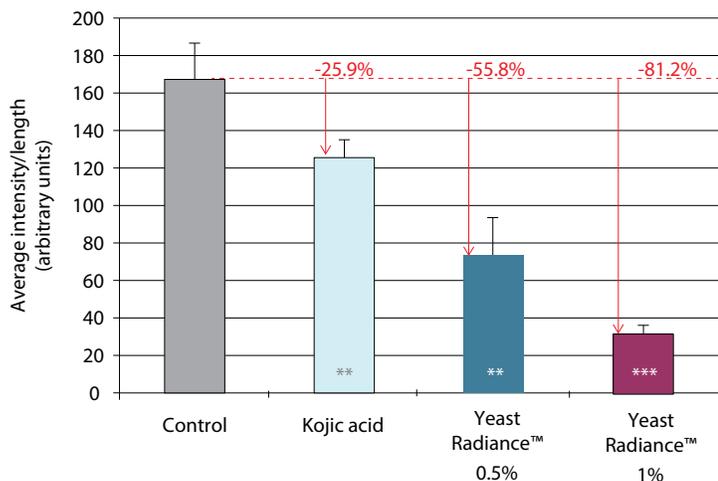
In *ex-vivo* testing, Yeast Radiance™ has been shown to provide markedly better brightening benefits for skin's appearance than standards such as Kojic acid, even when used at lower levels. This superior efficacy demonstrates the effectiveness of the yeast-based ingredient at helping to brighten and even skin tone.

### Efficacy compared to Kojic acid



Compared with a 1% PBS solution of Kojic acid and a placebo, a 0.5% PBS solution of Yeast Radiance™ yielded visibly brighter results as revealed by Fontana Masson histological staining of melanin and measured by Image Pro® software.

### Quantification of brightening efficacy



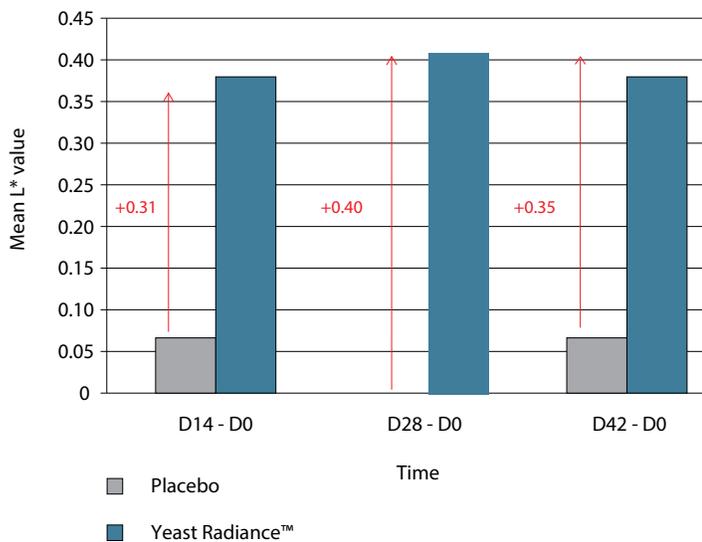
Similarly, when measuring the intensity of skin color following the application of Yeast Radiance™, it is clear that it provides significantly better results than Kojic acid, even at half the concentration.

## Clinical study

When tested on a group of Asian volunteers, Yeast Radiance™ showed significantly better results than a placebo (*in-vivo*). The double-blind test compared a cream containing 3% Yeast Radiance™ against a placebo over 42 days. Each of the 20 panelists applied the creams twice a day after using a sunscreen two hours prior. Skin luminance measurements were taken on days 0, 14, 28 and 42 using a CM-2600d spectrophotometer; the L\* value of the CIELAB (L.a.b) color space was recorded to determine lightness of skin.

Within the L.a.b color space, the L\* value indicates relative lightness (luminance) of skin, with higher values denoting a greater degree of lightness. At each measurement, the mean value of L\*, for the treated skin, was higher than that of the placebo. By the end of the 42 days, 75% of the panelists showed improvements in skin luminance.

### Time vs skin luminance values



The effect of Yeast Radiance™ was maximized at day 14, averaging an L\* value increase of 0.35 over the placebo. The benefit was prolonged with continued application, as 75% of the panelists experienced improvements in skin brightness.

## Conclusion

Based on both *ex-vivo* and *in-vivo* testing, Yeast Radiance™ helps consumers to brighten the appearance of their skin and achieve a younger, more radiant and fresher look.

Yeast Radiance™ is designed to promote a youthful, vibrant look, these innovations enable marketers to deliver a wide array of benefits to consumers through everyday products.

## Overview

### Physical properties

Appearance	Limpid solution
Color	Yellow
Odor	Characteristic

### INCI name

Water (and) Glycerin (and) Hydrolyzed Yeast Protein (proposed)

### Formulation guidelines

Recommended use level: 3%

