

## ReGeniStem™ Red Rice

### Renewable Active for Healthy Skin



**INCI Name:** Ozonized *Oryza sativa* Callus Culture Extract

**Preservative System:** Phenoxyethanol

**SAP Code#:** 140090

### Key Claims

- Naturally derived
- Epidermal hydration
- Skin smoothing
- Firming
- Increase dermatopontin protein *in vitro*
- Environmental protection

### Use Level:

2 - 4%

ReGeniStem™ Red Rice is a naturally derived skin care active made from Himalayan red rice. Totipotent plant cells are cultivated from the red rice-meristems and stressed with ozone, forcing the cells to produce secondary metabolites to help protect themselves from damage. These unique metabolites are specific to red rice and provide several advantages to skin. These include:

- Increase in Collagen1A production *in vitro*, which may lead to a reduction in fine lines & wrinkles
- Increase skin hydration, better moisturized and conditioned skin
- Reduction in transepidermal which can lead to water loss, which can lead to more balanced skin and an improved skin barrier
- Uniform skin tone, reduction in pore size

## In vitro Studies

### DNA Methylation (Epigenetic Chip)

Evaluates the degree of methylation occurring at the CpG regions genome-wide in fibroblasts.

#### Results:

The 2% treatment with ReGeniStem™ Red Rice encourages the demethylation of CpG islands in the gene promoter regions despite exposure to UVB, making the aged cells behave more like young cells (Fig. 1, next page).

#### Average CpG methylation at all Gene Promoters, Genome Wide

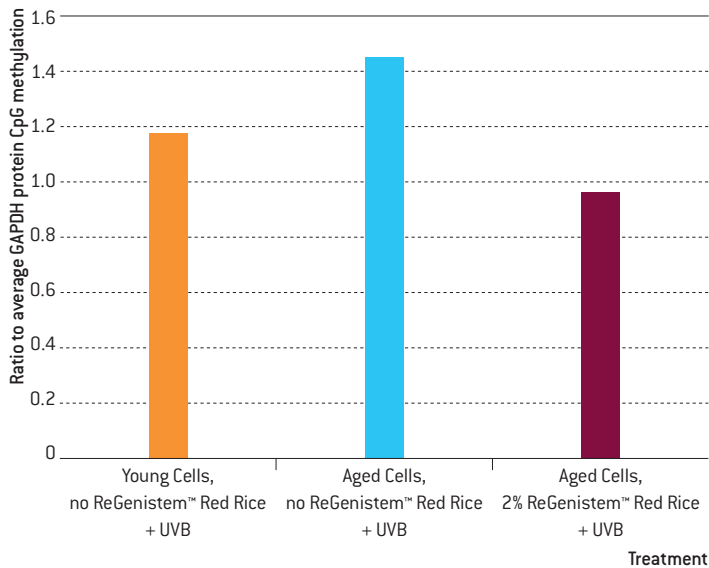


Fig. 1

Average Global CpG methylation at the promoter region with ReGeniStem™ Red Rice treatment

## In vitro Studies

Evaluates the effect of ReGeniStem™ Red Rice on the expression of Dermato pontin.

#### Results

The 2% treatment with ReGeniStem™ Red Rice upregulated the protein dermato pontin in keratinocytes, suggesting ReGeniStem™ Red Rice may be able to influence skin barrier function. This increase could translate into skin that is better able to withstand the effects of a harsh environment.

#### Dermato pontin Expression

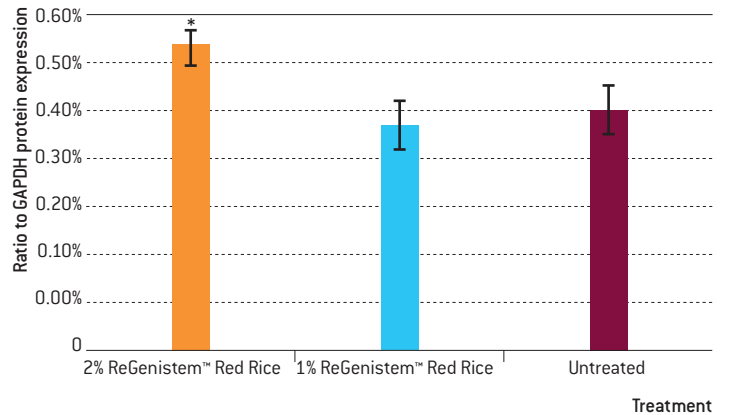


Fig. 2

Protein assay showing the effect of ReGeniStem™ Red Rice on dermato pontin synthesis

## In vivo Studies

Fourteen percent of test subjects using the product containing 4% ReGeniStem™ Red Rice experienced a statistically significant increase in hydration as measured by corneometer.

#### Skin Hydration at 60 Days Measured by Corneometer

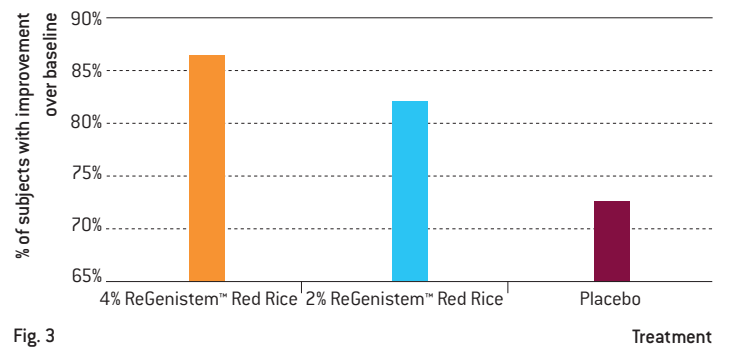


Fig. 3

Skin Hydration at 60 Days Measured by Corneometer

Panelists consistently rated the test product containing ReGeniStem™ Red Rice as giving them better improvement of their skin as pertaining to seven distinct performance parameters.

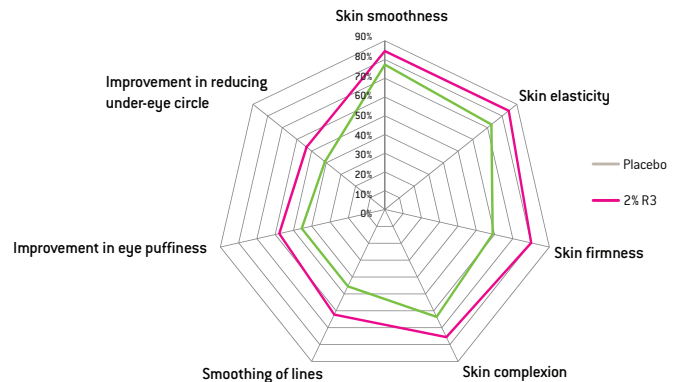


Fig. 4

Subjective questionnaire parameters. Percent of panelists noting improvement after 60 days



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