

**PENTAPHARM**

# REGU<sup>®</sup>-AGE

**For those who are troubled by dark circles and puffiness around the eyes Pentapharm has launched REGU<sup>®</sup>-AGE. This new anti-ageing complex has been developed specifically to address these conditions by improving microcirculation, protecting the integrity of the collagen and elastin bundle and reducing the effects that free radicals have upon the skin. *In-vivo* tests have confirmed visible results after only 4 weeks.**

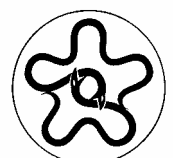
## **PRODUCT DESCRIPTION**

The REGU<sup>®</sup>-AGE active complex consists of specially purified soy and rice peptides, and biotechnologically produced yeast protein. *In vitro* tests have shown a significant reduction in the rate of blood clotting. REGU<sup>®</sup>-AGE exerts a positive, localized effect on the hemodynamic properties of blood to improve oxygen supply to the tissue. Because the complex inhibits elastase and collagenases, it reduces the harmful effects of chronic UV radiation on the connective tissue, to help the skin retain its natural firmness. With the help of oxidoreductase the amount of free radicals, and thus inflammation processes, are minimized, resulting in a visible reduction of puffiness around the eyes.

The active complex has been developed for facial care products, especially anti-ageing eye-care creams and gels. It is principally aimed at mature skin that is already showing visible signs of ageing.

## **BACKGROUND**

The skin around the eyes is normally very thin, containing only delicate subcutaneous fatty tissue. As we age it becomes even thinner. In addition to individual genetic disposition, external influences such as UV radiation play a significant part in the appearance of dark circles and eye puffiness. Today, they are viewed to be the result of blood retention in upper layers of the skin caused by poor hemodynamic properties and limited blood flow. If not treated properly, this can lead to a build up of venous back pressure on the fine skin capillaries, resulting in increased damage on an already weakened connective tissue. An insufficient supply of essential oxygen, inflammation processes followed by higher levels of ROS and also increased activity of proteolytic enzymes due to UV exposure contribute to the degeneration of the connective tissue resulting in wrinkles and slackness.



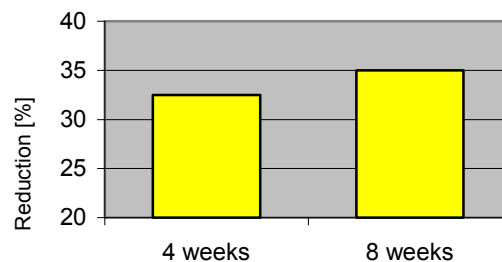
## EFFICACY

Twenty (20) subjects (aged 30 and older, with dry skin and exhibiting some of the visible signs of ageing) applied the treatment and the placebo product on either their left side or the right side of their faces, twice a day (AM & PM) after facial cleansing over a period of 8 weeks. Prior to the beginning of the study and after 4 weeks and 8 weeks of product use, test panelists were evaluated for changes in skin texture, under-eye dark circles and puffiness.

Significant reductions in wrinkles/fine lines, under-eye dark circles and puffiness were observed after four weeks treatment with a REGU<sup>®</sup>-AGE containing cream. All parameters continued to improve throughout the study. The placebo exhibited only marginal improvements in the aforementioned clinical parameters.

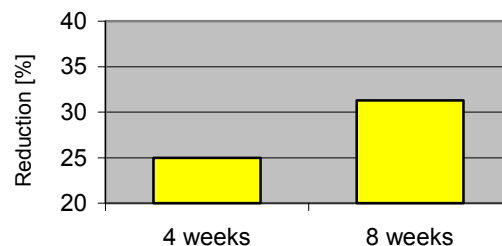
### REDUCTION OF DARK CIRCLES

A 35% reduction of dark circles around the eye was observed after 8 weeks of treatment with 5% REGU<sup>®</sup>-AGE.



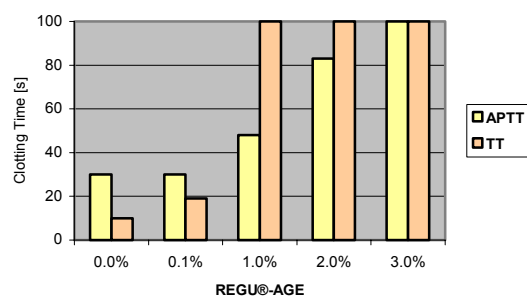
### REDUCTION OF EYE PUFFINESS

A reduction of eye puffiness of approximately 32% was observed after 8 weeks of treatment with 5% REGU<sup>®</sup>-AGE.



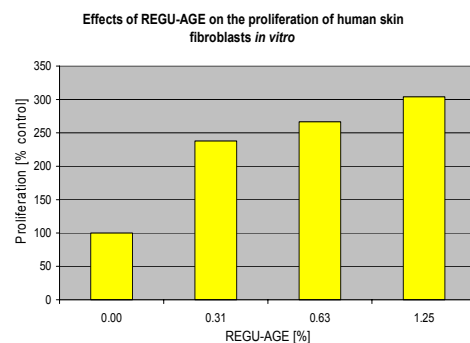
### BENEFICIAL EFFECT ON THE CAPIL-LARY CIRCULATION

*In vitro* tests (aPTT-activated Partial Thromboplastin Time and TT-Thrombin Time) have shown that at already low levels REGU<sup>®</sup>-AGE has a beneficial effect on the capillary circulation.



### STIMULATION IN FIBROBLAST PROLI-FERATION

The present *in vitro* assayed demonstrated a stimulation in fibroblasts proliferation of about 200% at a concentration of 1.25% REGU<sup>®</sup>-AGE.



## CONCLUSION

REGU<sup>®</sup>-AGE has been proven to be a fast and effective tool to

- reduce dark circles and puffiness around the eyes
- strengthen the connective tissue
- reduce inflammation and prevent UV damage

## TECHNICAL INFORMATION

### PRODUCT SPECIFICATIONS

Appearance	:	Clear to slightly opalescent, yellowish solution
pH	:	5.3 - 6.3
Relative density (20°C)	:	1.055 – 1.090
Refractive index (25°C)	:	1.366 – 1.370
Activity:		
- Collagenase		more than 10 CoIU / ml (Collagenase Inhibitor Unit)
- Elastase		more than 5 EIU / ml (Elastase Inhibitor Unit)
- Enzymatic activity		more than 1000 ORU / ml (Oxido-Reductase Unit)
Preservative (Phenonip <sup>®</sup> )	:	0.4 – 0.6% m/m
Microbial count	:	< 100 CFU/ml (colony-forming units)
Specified pathogens	:	absent

### PRESERVATION AND MICROBIOLOGY

REGU<sup>®</sup>-AGE is preserved using Phenonip. REGU<sup>®</sup>-AGE is free of specified pathogens. The amount of non-pathogenic micro organisms with less than 100 CFU per ml of REGU<sup>®</sup>-AGE meets the CTFA microbiology guidelines.

### SAFETY AND ECOLOGY

Standard and well-defined safety testing has been performed on REGU<sup>®</sup>-AGE which has proved the product to be safe for cosmetic use. The data available do not indicate any environmental risks. The manufacturing process is designed to meet the criteria for the assessment of safety, health and protection of people and of the environment set out in the *Responsible Care Program*.

### PROCESSING AND DOSAGE

REGU<sup>®</sup>-AGE should be processed below 40°C and is incorporated into the aqueous phase of a cosmetic formulation. The optimal pH-range for formulations with REGU<sup>®</sup>-AGE is between 5.5 and 8.0. In formulations, REGU<sup>®</sup>-AGE is compatible with ethanol at concentrations of up to 20%. For skin care preparations, we recommend the addition of 2 to 5% REGU<sup>®</sup>-AGE. Basic guide formulations are available upon request.

### STORAGE AND SHELF LIFE

REGU<sup>®</sup>-AGE should be stored in the original sealed containers protected from light in a clean place at a temperature between 4 and 8°C. In order to avoid secondary microbial contamination, following opening, containers should be handled with special care. If stored under the recommended conditions, REGU<sup>®</sup>-AGE remains stable for at least 2 years.

## GENERAL PRODUCT INFORMATION

Trade Name	:	REGU <sup>®</sup> -AGE
Product Code	:	800131
INCI Name (CTFA)	:	Hydrolyzed Rice Bran Protein Glycine Soja (Soybean) Protein Oxido Reductases
EU-Labeling Name	:	Hydrolyzed Rice Bran Protein (others are not listed)
Chemical Name	:	Aqueous solution of rice peptides, soy peptides and oxido reductases
CAS No	:	94350-05-7, 9010-10-0, 8013-01-2
EINECS No	:	305-224-5, 232-720-8, 232-387-9
JCID (Approval) No	:	Not approved
NICNAS listed as	:	Not listed
Customs Tariff No	:	3824.9098 (Harmonized System Number)
Shelf life	:	2 years

## COMPOSITION

A) Ingredient(s)	INCI Name #	Amount *
As listed in the CTFA Dictionary	Hydrolyzed Rice Bran Protein	D
	Glycine Soja (Soybean) Protein	F
	Oxido Reductases	F

B) Additives	INCI Name #	Amount *
Solvents	Water	A
	Glycerin	C
Preservative (Phenonip <sup>®</sup> )	Phenoxyethanol, Methylparaben, Butylparaben, Ethylparaben, Propylparaben, Isobutylparaben	F
Others (buffers, antioxidants, colorants)	None	

# CTFA Dictionary

\* FDA-Code (A = > 50%, B = 25-50%, C = 10-25%, D = 5-10%, E = 1-5%, F = 0.1-1%, G = < 0.1%)

## REMARK

Although these data and information have been prepared with the utmost possible care, we reserve the right to make changes due to product improvement and other considerations.

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