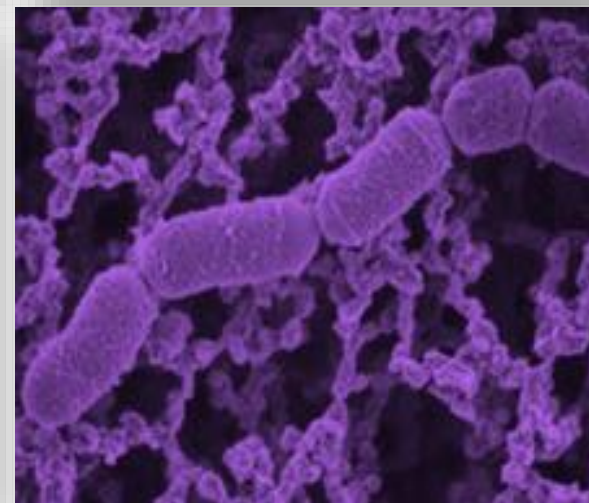
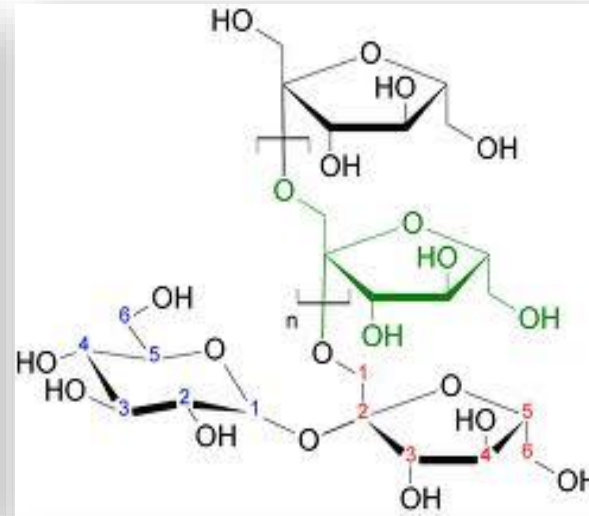
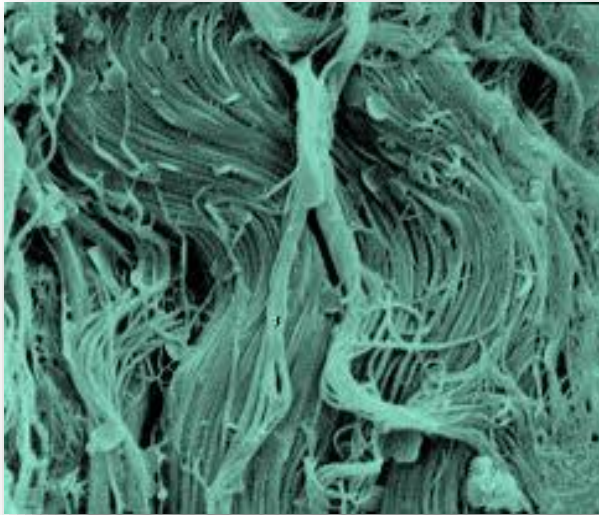


PROBACILLUS REVIVE

Probiotic + Optimizes Moisturization + Promotes Homeostasis + Exfoliates



Probacillus Revive



Technical Information:

Product Code: 16618

INCI Name: Lactobacillus Bulgaricus Ferment Filtrate

INCI Status: Approved

Suggested Use Levels: 2.0 – 5.0%

Suggested Applications: Collagen Production, Barrier Function, Cellular Renewal, Optimizes Moisturization, Probiotic, Promotes Homeostasis

Solubility: Water Soluble

Health and Wellness



Prebiotics

- Non-digestible food ingredients that beneficially affect the host by selectively stimulating the growth and/or activity of bacteria
- Optimizes the balance of the bacteria present on the skin to promote the health

Prebiotics + Cosmetic Ingredients



Manufacturing the Active

- Ferment derived from *Lactobacillus bulgaricus*
- Prebiotics (oligosaccharides) derived from soy and chicory are used to supplement the culture media
 - Optimizes the growth conditions for the organism
- The media stimulates the synergistically active compounds that are produced by the bacteria
- Various filtration techniques are used to isolate and extract the synergistically active compounds

Probacillus Revive



Benefits

- ✓ Enhances cellular renewal
 - Improves epidermal integrity
 - Enhances barrier function
 - Speeds repair

- ✓ Increases collagen synthesis
 - Improves skin tone
 - Reduces the appearance of fine lines and wrinkles

- ✓ Moisturizes

- ✓ Suitable for products designed for marketability coinciding with the probiotic trend

Probacillus Revive Efficacy Assays



Increase in Collagen Type I Production

- Collagen I is a major component of the skin
- Human fibroblasts cultured ~6,000 cells per dish *in vitro* in 10.0% Fetal Calf Serum (FCS) medium for 24 hours
- Cells were removed, placed into amino acid deficient medium and supplements with 1.0%, 2.0% or 4.0% Probacillus Revive and amino acid deficient control
- Incubated for 48 hours
- Elisa Assay: Immunolabeled with primary and secondary antibodies (murine anti-collagen I monoclonal antibody and murine anti-IgG antibody) in peroxidase/ TMB substrate (3, 3', 5, 5' tetramethylbenzidine) visualization system

Probacillus Revive Efficacy Assays

Collagen Production Assay



Improvements in Collagen Production

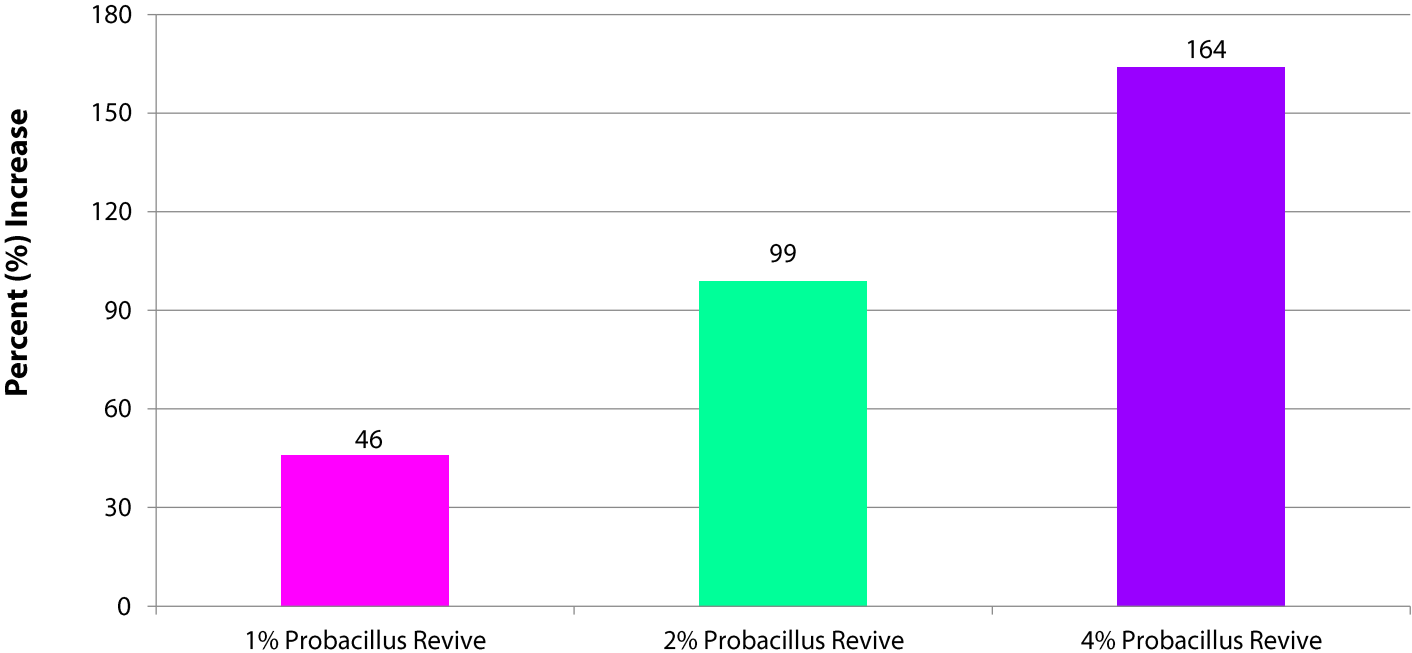


Figure 1. Increase in collagen type I production when using different concentrations of test material

Probacillus Revive Efficacy Assays

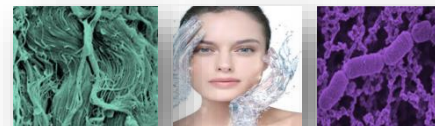


Dansyl Chloride Assay

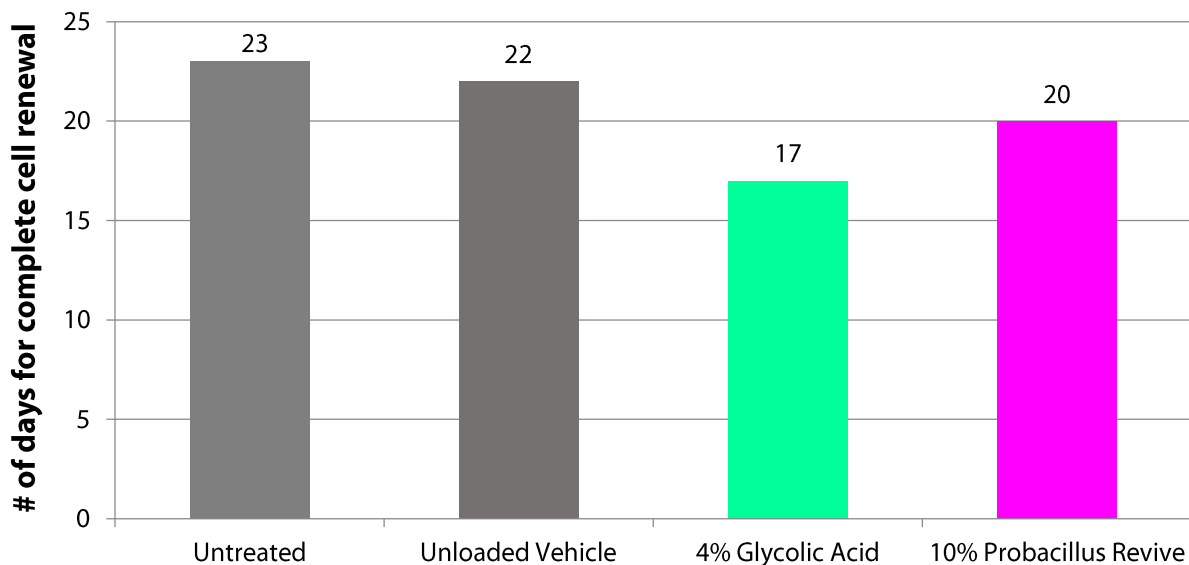
- A 5.0% Dansyl Chloride was prepared by dispersing Dansyl Chloride 95.0% (Sigma) in petrolatum
- ~2.0g of the ointment was applied to three 2cm x 2cm locations on the volar forearm of each panellist
- The material was allowed to remain in place for 24 hours at which time any excess ointment was removed
- ~50mL of product was applied to the appropriate test site once per day
- The sites were examined daily under ultraviolet light (SL-3660 Long Wave Ultra Violet, Black Light Easter Corp) for fluorescence
- The test was continued until no fluorescence was detected at any site

Probacillus Revive Efficacy Assays

Dansyl Chloride Assay



Increase in Cell Renewal



Test Materials

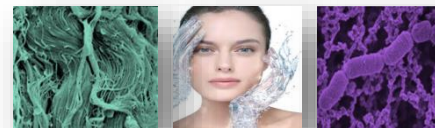
- Unloaded Vehicle
- 4.0% Glycolic Acid
- 10.0% Probacillus Revive

- The values listed reflect the average time for each product

Figure 2. Average number of days taken for complete cellular turnover in relation to test material applied

Probacillus Revive Efficacy Assays

Hydration Assay



Increase in Hydration

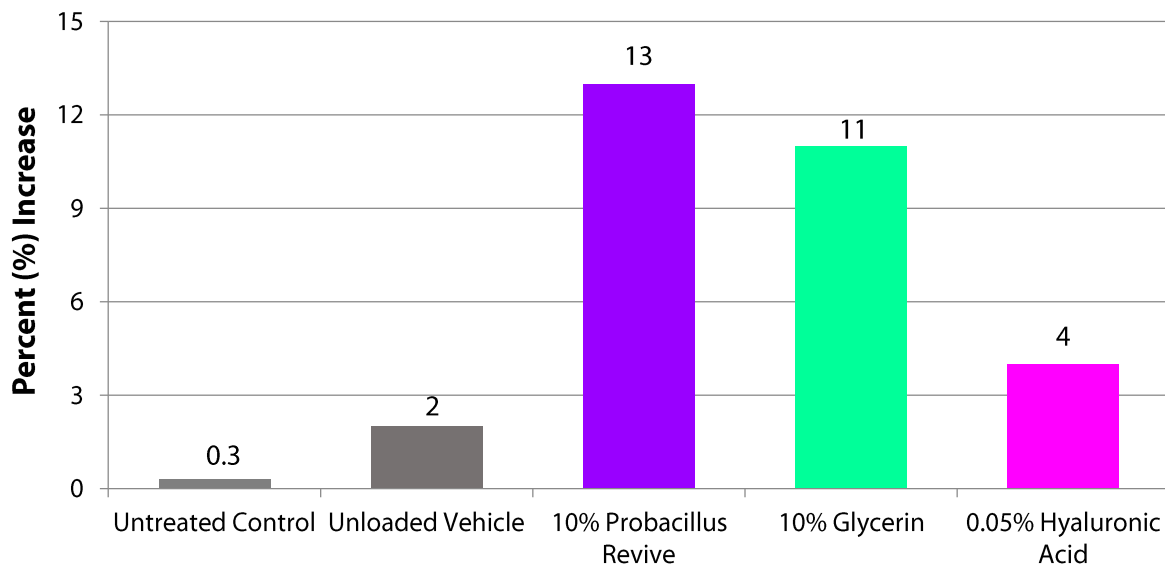


Figure 3. Percent increase of skin hydration levels for each test material applied

Protocol

- 10 m/f subjects, ages 23 – 39
- Novameter (9003 DPM) was used to measure skin hydration over the course of 30 days
- 2mg of each test material was applied twice daily to designated areas on the volar forearms of panelists

Probacillus Revive

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