

# Use of a Facial Moisturizer Containing Pal-KTTKS Peptide Improves the Appearance of Aging Skin

Rosemarie Osborne, Ph.D.; Larry Robinson, Ph.D.; Lisa Mullins, B.S.; Patricia Raleigh, B.S.; James Li, M.S., M.A.; Kukizo Miyamoto, Ph.D.;  
Procter & Gamble Miami Valley Innovation Center, Beauty Technology Division

## Introduction

Pal-KTTKS is a pentapeptide that, as a fragment of collagen, acts *in vitro* to stimulate synthesis of connective tissue composed of proteins (collagen I, III, IV) and polysaccharides (GAGS, hyaluronic acid), as part of a feedback mechanism in fibroblasts.

Previous clinical studies have demonstrated that use of facial moisturizers containing pal-KTTKS can lead to improvements in the appearance of photoaged skin. In the present study, the facial benefits of a pal-KTTKS-containing moisturizer on the appearance of facial texture, fine lines and wrinkles were determined.

## Objective

- To evaluate the facial benefits of a moisturizer containing pal-KTTKS on the appearance of bumpy texture, fine lines and wrinkles in women with photoaged skin.

## Results

Figure 1. Facial Texture

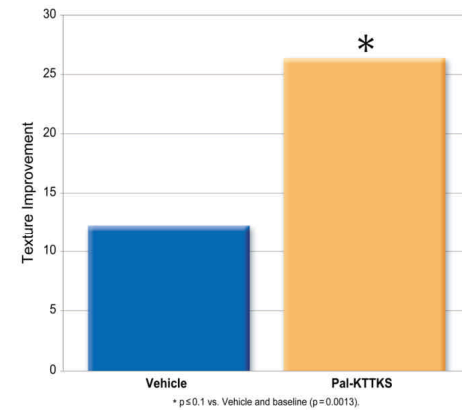


Figure 2. Fine Lines and Wrinkles

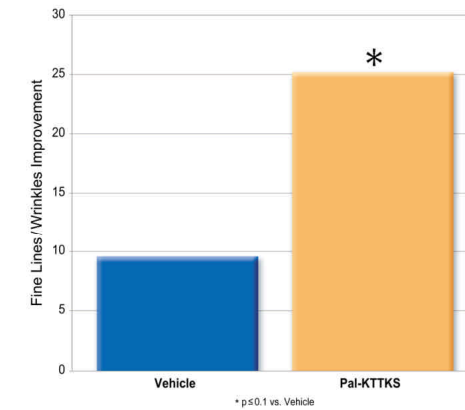


Figure 3. Pal-KTTKS Product  
Baseline vs 8 wk Facial Images



## Methods

### Test Products

Pal-KTTKS (palmitoyl-lys-thr-thr-lys-ser) was obtained from Sederma, France. A unique aminopeptide containing formulation was evaluated, which also contained niacinamide, panthenol, and vitamin E in a serum-type facial moisturizer product at a concentration of 3 ppm. Responses were compared to a moisturizer base vehicle.

### Clinical Facial Study Protocol

The clinical study was a double-blinded 8-week facial study on 35 to 65 year old women. The women applied the moisturizer products twice daily in a split face, randomized round robin study design. The study was designed so that there were 60 panelists per product. At baseline, 4 and 8 weeks, digital facial images were obtained and analyzed for changes in facial texture, fine lines and wrinkles by expert and self-grading, and by image analysis.

## Conclusions

- The pal-KTTKS product improved the appearance of bumpy facial texture (Fig. 1) and fine lines/wrinkles (Fig. 2), as determined by imaging with quantitative analysis or expert grading, respectively.
- Improvements in facial skin texture, fine lines and wrinkles are apparent in the under-eye and cheek areas of the face (Fig. 3).
- These results demonstrate the benefits of a facial moisturizer containing Pal-KTTKS for improving the appearance of facial skin aging.