

## CLINICAL INTRODUCTION

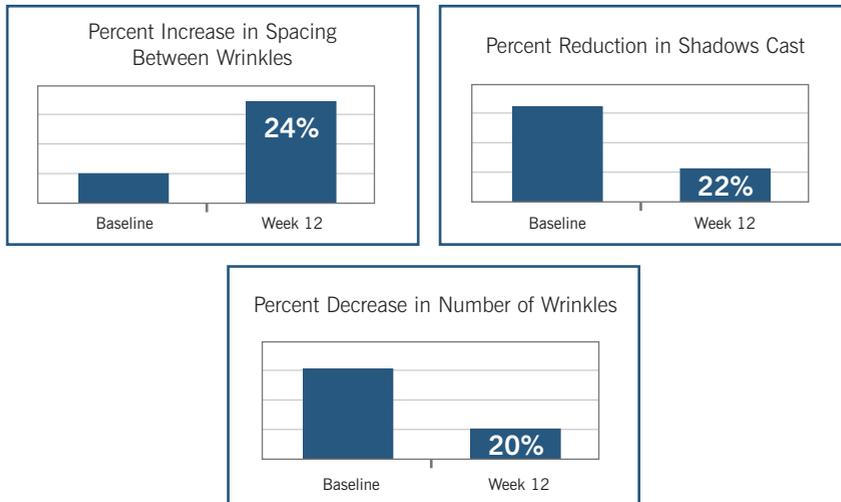
The objective of this study was to evaluate the potential of a cosmetic preparation containing peptides to reduce the appearance of deep wrinkles after 12 weeks of daily treatment. This was a double blind, whole face study involving 42 subjects. The whole face was treated twice a day for twelve weeks with the test product. Silicone replicas, 35mm photographs, and clinical grading of the designated areas was performed at baseline and after 12 weeks of treatment.

Results of the test were evaluated by subjective responses of the participants, comparison of before/after photographs, and by digitized surface image analysis. Whole face application of the product was specified, but analysis focused on six facial areas. These consisted of: (1) eye crow's feet, (2) forehead horizontal lines, (3) inter-eyebrow folds, (4) nasal labial folds, (5) mouth corners, and (6) lip lines.

### Percent of Participants Experiencing Wrinkle Improvement

| Measurement                           | Week 12 |
|---------------------------------------|---------|
| Improvement over baseline             | 91%     |
| Statistically significant improvement | 61%     |

### Statistical Improvement in Digitized Surface Texture



## CONCLUSIONS

Results of this test verify the significant improvement in moderate to deep lines and wrinkles following the 12-week usage period. The usage of biologically active peptides has been demonstrated and their benefits resulted in improved skin appearance. Digital analysis of wrinkle spacing, breadth of wrinkle, luminosity of shadows cast (an indication of wrinkle size and depth), and the number of wrinkles showed improvement in each of the six facial areas. The use of select peptides has been shown to be an effective option in the treatment of aging skin conditions.

## TRU FACE™ LINE CORRECTOR

### Indications

The topical application of specific peptides helps soften deep lines and wrinkles around the mouth, eyes, and forehead. Medical science has recently discovered that peptides have the ability to send age-reversing signals to collagen-producing cells, promoting younger-looking skin.

### Directions for Use

Tru Face Line Corrector should be used both morning and evening after cleansing and toning. Apply generously to lines around eyes, mouth, and forehead. Follow with the Nu Skin moisturizer or treatment of your choice.

### Warnings or Precautions

If irritation is experienced, discontinue use.

| Ingredients                | Benefits   |
|----------------------------|--|
| Palmitoyl-Pentapeptide-3   | Dermal fibroblast stimulation; increase in collagen production                 |
| Dipalmitoyl Hydroxyproline | Moisturization; improvement in the appearance of wrinkles; collagen production |

## CLINICAL STUDY BEFORE/AFTER PHOTOGRAPHY COMPARISONS



## REFERENCES

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“Cosmetic Applications of a Wound Healing Peptide,” Litner, Karl, *Journal of Cosmetic Science*, 2000 Annual Scientific Meeting, presented by Sederma

“Pharmacology of the Skin,” CRC Press, Thomas Schwarz and Thomas A. Luger, 1992, pp. 283–300

# NU SKIN TRU FACE™ LINE CORRECTOR CLINICAL BULLETIN

Summarized from a third party professional assessment performed according to Good Clinical Practices and the Standard Operating Procedures of the organization.

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## DEEP LINES AND WRINKLES: CAUSES AND CURES

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The most feared cosmetic symptom of aging is wrinkles. As we age, we most often gauge this process by the appearance of fine and deep lines. We once believed wrinkles to be an inevitable outcome of the natural aging process. We now understand that wrinkle formation is merely a symptom of underlying skin changes, and these changes are becoming more easily and effectively addressed through modern science.

Wrinkles result from skin structural changes brought on by sun exposure, mechanical stress, chronic irritation, and metabolic variations, all of which ultimately affect the supporting dermal layer of skin. Changes in the supportive collagen layer cause the surface layers of skin to sag, wrinkle, and appear aged.

Peptides (small protein polymers) have been shown to counteract the degradation of dermal collagen, resulting in a significant change in the appearance of moderate to deep lines and wrinkles. As collagen fibrils are broken down through natural biological processes, peptide portions, or by-products of this catabolic process, act as signals or messenger molecules in the formation of new collagen fibrils by the fibroblasts.

Identification and incorporation of very specific peptide sequences have demonstrated biological activity in relationship to collagen formation in both in vitro and ex vivo human tests. The molecule shown to have this signaling power is a pro-collagen I terminal sequence consisting of the amino acids:

Lysine–Threonine–Threonine–Lysine–Serine

The small molecular size of the peptide linked to a palmitic acid chain allows for increased penetration into the top stratum corneum layers of the skin.



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