



## Technical Data Sheet

## Siped®PP-3

### Key Features

Siped®PP-3 is a solution containing 120 ppm of lipopeptide Pal-Lys-Thr-Thr-Lys-Ser (Pal-KTTKS). Pal-KTTKS has comparable efficacy to retinol without skin barrier damage.

**CAS** 214047-00-4

**Sequence** Pal-Lys-Thr-Thr-Lys-Ser

### Properties and benefits

Pal-KTTKS has comparable efficacy to retinol. In clinical trials, topical 3 ppm pal-KTTKS has demonstrated efficacy in reducing fine facial lines/wrinkles.

- Stimulation of collagen I, III, IV and fibroblasts synthesis;
- Reduces excess dermal glycosaminogly found in older skin;
- Increases epidermal thickness;

In contrast to retinol, pal-KTTKS did not induce irritation even at much higher levels

### Applications

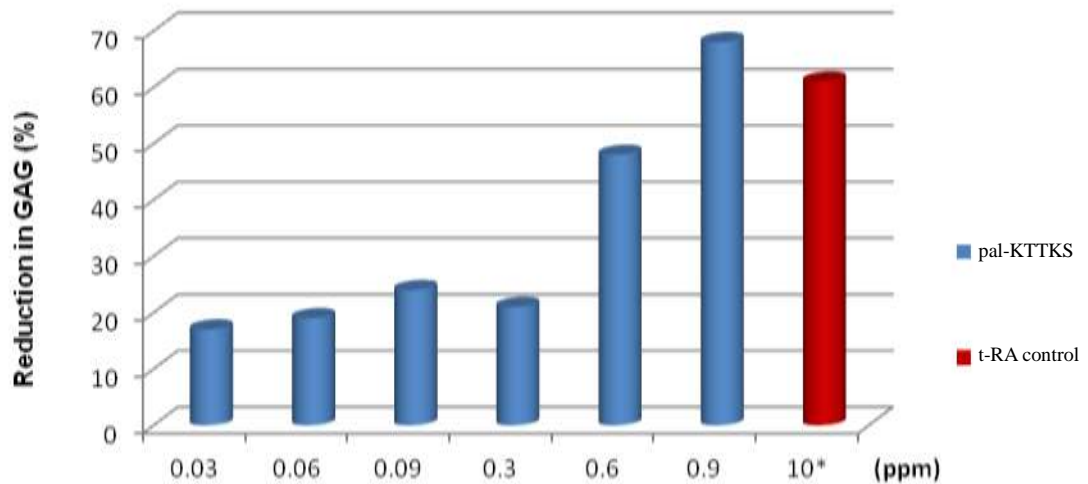
Products for wrinkle prevention and repair, eye contour care.

### Specifications

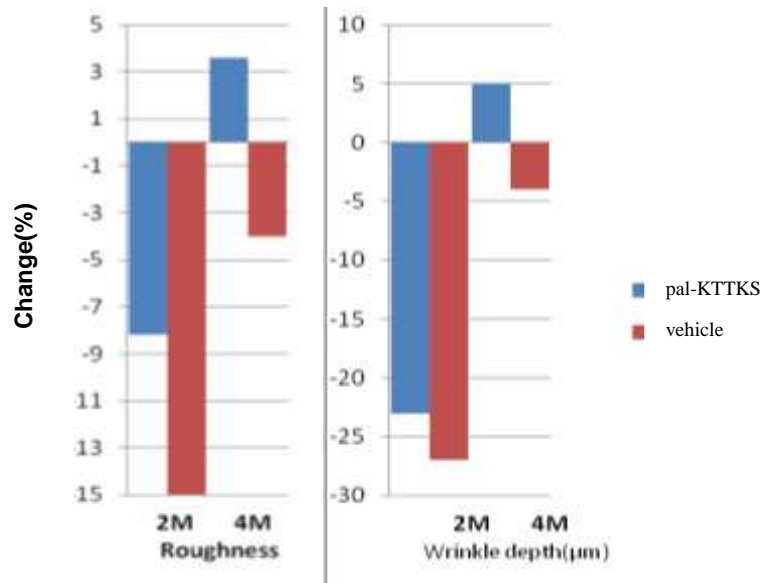
Appearance	Transparent solution
Odour	Characteristic
HPLC+MS	Conform
PH	6.0-7.0
Pal-KTTKS content	≥150 ppm
Total Plate Count (cfu/gm)	≤ 100

## Human clinical efficacy

1 Inhibition on GAG: Elevated GAG levels are characteristic of light damage/wrinkle skin and low levels of GAG is good for skin matrix. Based on the Experimental results, pal-KTTKS seems to be a GAG inhibitors. Pal-KTTKS can effectively reduce the level of GAG in the older donor skin fibroblasts in very low doses. Pal-KTTKS less than 1 ppm has the same effect as more than 10ppm t - RA .



2 Anti-wrinkle effect: Total 50 women aged 35-55 used pal-KTTKS in facial skin. The changes of roughness and wrinkle depth of skin were determined by quantitative image analysis of skin replicas.



Placebo

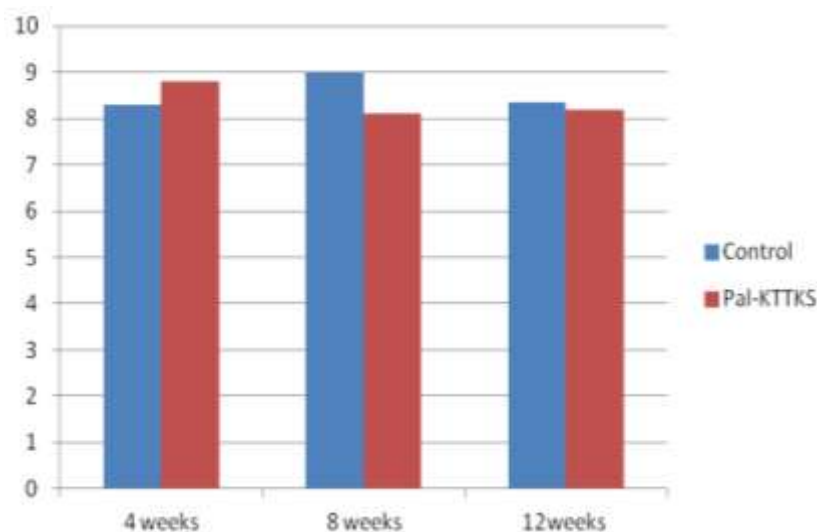


3ppm pal-KTTKS

(1) Cream containing 5ppm pal-KTTKS produced significant improvements in surface roughness and wrinkle depth.

(2) Compared to placebo, 3 ppm pal-KTTKS significantly reduced fine lines/wrinkles. Directional and significant improvements in appearance were seen at 12 weeks, include wrinkle appearance, wrinkle length and texture.

3 Effect on skin barrier: 3 ppm of pal-KTTKS was applied to the face and retinol was used as a control group.



Compared to Retinoid, pal-KTTKS also has similar anti-aging effect and did not have a greater impact on the skin barrier (based on TEWL measurements). Skin treated with pal-KTTKS did not show a significant difference compared to the control formula.

## Recommended use level

3 to 8%

## Formulation Tips

- 1 Incorporated in cosmetic formulations at room temperature.
- 2 Siped<sup>®</sup> PP-3 can be compatible with carbomer.

## Package

5Kg /tin

## Storage

Siped® PP-3 remains stable for 2 years when stored at room temperature and sealed.

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