



# Chengdu KaiJie Biopharm Co., Ltd.

Segment 1, Industrial Road, Dayi county, Chengdu, Sichuan, P. R. China, 611330

Tel: 86-28-88208155, Fax: 86-28-88203632 WEB: [www.kjpep.com](http://www.kjpep.com)

## About Author

Chengdu Kaijie Biopharm Co, Ltd. (KJBP) is one of leading peptide manufacturers in Asia. With its highest capacity of production in China and the outstanding quality of peptide products, Kaijie holds a unique position.

## Palmitoyl Oligopeptide (Pal-GHK)

主要治疗：抗皱，防止衰老

## Palmitoyl Oligopeptide (Pal-GHK)

Palmitoyl oligopeptide is an ingredient of many skin care products including anti-aging creams, lip sticks and eye serums. Peptides are the building blocks, or bonds, between amino acids. Research has shown that peptides in general aid in skin repair and renewal. Palmitoyl oligopeptide is a fairly new peptide and is being researched as the new best thing next to retinol, but without any side effects.

- . Structure
- . Peptides are short strings of amino acids, and amino acids are the building blocks of proteins. Palmitoyl oligopeptide is a chain of five amino acids bonded together and linked to a fatty acid. This synthetic peptide--meaning it is man-made--consists of the amino acids glycine, glutamine, proline and arginine. Palmitoyl oligopeptide is actually a fragment of collagen that is attached to palmitic acid, which makes it more stable while also enhancing its ability to bind to human skin.
- . Function
- . The main function of palmitoyl oligopeptide is the restructuring of cutaneous, or skin, tissues. Research has shown that palmitoyl oligopeptide can increase collagen, elastin, hyaluronic acid and glucosaminoglycan production. When the synthesis of these proteins is stimulated, the effects are smoother, wrinkle-free rejuvenated-looking skin.
- . Research
- . In vitro studies (studies done outside of organisms, such as in test tubes or petri dishes) show that when palmitoyl oligopeptide is added to fibroblasts (cells from connective tissues that are capable of producing collagen and other fibers), collagen production is increased by 350 percent. These studies also show an increase of 146 percent in hyaluronic acid production. Both collagen



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and hyaluronic acid are important molecules in the skin which help to maintain the skin volume. An increase in these molecules helps to hydrate and plump up the skin thereby increasing smoothness and decreasing wrinkles. In vivo studies show a 17 percent reduction in surface roughness, 39 percent reduction in the depth of main wrinkles and a 4 percent increase in skin thickness. These studies offer promising results for the cosmetic industry, which is taking advantage of this peptide as they produce more skin care products that contain this ingredient.

- . The Challenge
- . Although the early research shows promising results, the true effectiveness of this peptide is still being studied. There are many peptides that offer positive results in skin care and more research must be done to determine if this ingredient really is a collagen precursor that is more effective than others.
- . The Positive
- . In studies so far, palmitoyl oligopeptide has not produced any side effects. Retinol, a form of vitamin A and a popular ingredient for skin care products for its positive effects on wrinkles, does have several side effects including warming of the skin, itching, dryness and sensitivity to sunlight.
- . Conclusion
- . Although there is still a lot of research to be done, the early studies show palmitoyl oligopeptide, trade name Matrixyl, to be effective in aiding in collagen and elastin production, which can reduce wrinkles.