

## **Comparison of quantity and structures of hydroxyproline-containing peptides in human blood after oral ingestion of gelatin hydrolysates from different sources.**

Ohara H, Matsumoto H, Ito K, Iwai K, Sato K.

**Source:** Food and Health R&D Laboratories, Meiji Seika Kaisha, Ltd., 5-3-1, Chiyoda, Sakado-shi, Saitama 350-0289, Japan.

### **Abstract**

We compared quantity and structures of food-derived gelatin hydrolysates in human blood from three sources of type I collagen in a single blind crossover study. Five healthy male volunteers ingested type I gelatin hydrolysates from fish scale, fish skin, or porcine skin after 12 h of fasting. Amounts of free form Hyp and Hyp-containing peptide were measured over a 24-h period. Hyp-containing peptides comprised approximately 30% of all detected Hyp. The total area under the concentration-time curve of the fish scale group was significantly higher than that of the porcine skin group. Pro-Hyp was a major constituent of Hyp-containing peptides. Ala-Hyp, Leu-Hyp, Ile-Hyp, Phe-Hyp, and Pro-Hyp-Gly were detected only with fish scale or fish skin gelatin hydrolysates. Ala-Hyp-Gly and Ser-Hyp-Gly were detected only with fish scale gelatin hydrolysate. The quantity and structure of Hyp-containing peptides in human blood after oral administration of gelatin hydrolysate depends on the gelatin source.