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Hydroxyproline

National Cancer Institute

Source

National Cancer Institute. *Hydroxyproline*. NCI Thesaurus. Code C76144.

A nonessential amino acid derivative formed during post-translational protein modification through hydroxylation of the amino acid proline by the enzyme prolyl hydroxylase which requires vitamin C as a co-factor. Hydroxyproline is a major component of the protein collagen and plays a key role in the stability of the collagen triple helix. It can be used as an indicator to determine the amount of collagen. Increased hydroxyproline levels in the urine and/or serum are normally associated with degradation of connective tissue. Vitamin C deficiency decreases the conversion of proline to hydroxyproline, which leads to reduced collagen stability.