ANALYSIS ON COLLAGEN TYPE I CHAINS

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Collagen type I, consists of a heterotrimer of two α1(I) and one α 2(I) chains, is the most common form of fibrillar collagen, being a major constituent of bone and skin. The research presents a correlation analysis of amino acids within and between collagen types I chains in the same specie and in different species. The collagen type I chains from the following species were included into analysis: Rattus norvegicus (Orjel at al., 2006), Bos taurus (Shirai et al., 1998), Danio rerio (Howden, 2007), Canis lupus (Lowe et al., 2003), and Homo sapiens (Strausberg et al., 2002). The correlation obtained were analyzed in accordance with the distribution of amino acids in the collagen type I chains [1,2]. A perfect correlation (r = 1) was obtained between species on the same α chain for cysteine, tryptophan, tyrosine, and lysine. The highest correlation on different collagen type I chains (r = 0.763) of the same species was obtained for Canis lupus.

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References