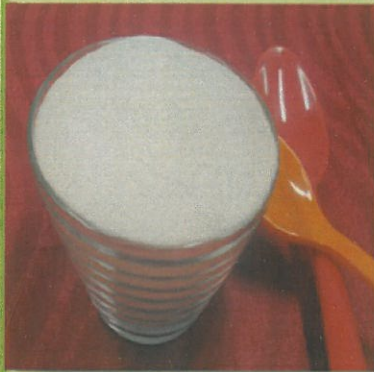


Fish Collagen Peptide

Safety

Hydrolyzed gelatine/collagen products have been designated as generally recognized as safe (GRAS) food products or food additives by the Food and Drug Administration (FDA). The tolerability of collagen peptide has been established with a series of controlled studies. It does not react with drugs or other food or food ingredients as it is a natural product. So far, no side effects have been reported for collagen peptide derived from non-bovine sources such as fish.



Worldwide, waste from fish processing industry is considered as an important pollutant having serious impact on the environment. As bulk of this waste material is proteinaceous in nature, fish processing waste is classified as a 'certified waste'. The World Health Organization (WHO) recommends fish protein as a significant source of essential amino acids. On an average 30% of fish processing waste accounts for the fibrous protein collagen. The collagenous materials in fish processing discards include skins, swim bladder, bones, fins and scales. Controlled hydrolysis of collagen give rise to biologically active peptides which have great potential in pharmaceutical, health food, nutraceutical and cosmetic industry. It has been observed that collagen peptide from fish processing discards can be absorbed to blood stream much better than those derived from other animal sources such as bovine source.



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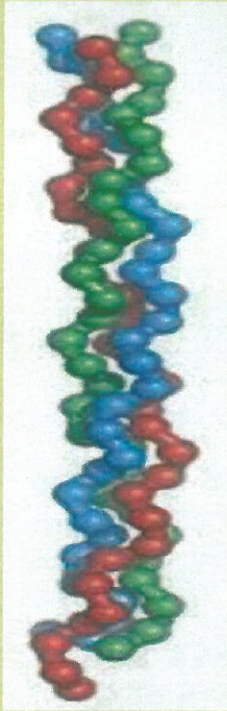
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Food Applications

Collagen peptide exhibit several functional and sensory properties that are better than those of native proteins from which they are derived. Recently, collagen peptide is being utilized in food industry in confectionery, dairy, bakery, meat-processing, beverages etc. as stabilizing, emulsifying, texturising, water binding or creaming agents. Collagen peptide can be ideally used as an alternative cryoprotectant to prevent the denaturation of surimi protein during freezing and frozen storage, inhibition of ice crystal growth in ice cream mix, and improving the rehydration capacity of bacterial cellulose.



Health Benefits

Dietary supplements containing collagen peptide is highly recommended for people suffering from arthritis / joint pains. Fish collagen has found application in reconstruction of corneal stroma, as the structure of collagen fibrils in fish scale is very similar to that of human corneal stroma. Fish derived collagen peptides have been found to have noticeable antioxidant and anti-hypertension activities. Collagen peptide is also in demand as a 'nutracosmetic', since it exhibits its effects on health and beauty through its unique mechanisms that are not found in other proteins.

Nutritional Mix from collagen peptide

Mumbai Research Centre of CIFT has formulated a nutritional mix containing 78% protein based on collagen peptide derived from fish scale. The product can be consumed along with milk as a health drink, can be a component of chappathi, or can be sprinkled over salads. The health-mix also contains natural mango pulp and oat fibres as the major ingredients, which effectively masked the bitterness of collagen peptide as well as modified the viscosity, when consumed as health drink. The product is mainly intended for middle aged and old people, ladies and sportspersons who need regular supply of collagen for healthy joints and bones. It may also be beneficial for patients suffering from osteoporosis and long-term-nursing home residents where there is a possibility of development of pressure ulcers.

Parameters	Mean value (g/100 powder)
Moisture	4.33
Fat	3.83
Protein	78.92
Total carbohydrate	11.25
Ash	1.13

Proximate composition of Nutritional mix prepared from fish scale collagen peptide

A nutritional mix prepared out of collagen peptide

