Process for the preparation of collagen

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ABSTRACT

This paper studies on the optimal process of the collagen manufacture from the waste of fish processing, the waste such as fish scales, fish skins and so on. The manufacturer processing uses the fish has Taiwan mouthbreeder and Japanese seaperch. This research take Taiwan mouthbreeder's scale as an example, and hoped to design a set of low cost, low pollution, high production rate and high-purity collagen manufacture method using the laboratory result. This findings hope the production rate approximately to reach 30% (dry base) and the molecular weight is between 10000 ~ 100000 Daltons. This research uses the method is as follows, the scales immerse into the sodium hydroxide solution to remove unnecessary protein, then, immerse in solvent to resolver some fat, and swelled the collagen after the acid immersion dissolution, add the enzyme to increase the extraction yield, finally passes through step purification collagens, such as centrifuge, separation, dialysis, freeze-drying, and so on. There are many factors affect collagen process efficiency, like raw material type, sequence of operation, operating condition and purification step and so on. The aims of this research are using the optimum condition of extraction and purification in the laboratory result to designs a low cost, low pollution, high production rate and high-purity collagen manufacture process.