ABSTRACT

ISOLATION AND CHARACTERIZATION OF CHONDROITIN SULFAT FROM CARTILAGE WASTE OF VARIOUS FISH SPECIES (LITERATUR REVIEW)

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Chondroitin sulfate (KS) is commonly used for the treatment of osteoarthritis. Commercial chondroitin sulfate products are mostly derived from the by-products of pork, beef, chicken and some cartilaginous fish, such as shark. The limited sources of KS and the factor of religious resistance led to the need to seek alternative raw materials for KS. One of the potential sources of KS comes from fish. This study aims to find data related to the isolation and characteristics of chondroitin sulfate from fish and generally derived from cartilage. The search for literature sources was carried out by entering the keyword "isolation chondroitin sulfate AND fish" in the PubMed, Sciencedirect, and Google Scholar databases. The literature that meets the inclusion-exclusion criteria, extracted data, and the publication year 2014-2020 is 14 articles. Isolation of KS can be carried out using the enzymatic-alkaline or enzymatic-acid hydrolysis method, which is then purified using the appropriate method. In general, the characteristics of KS from fish cartilage include a greater percentage of KS-C than KS-A, molecular weight of 40-78 kDa, and FTIR spectra showing absorption bands in the fingerprint area with a wavenumber of 3445 - 3310 cm^{-1} (O-H), 2354 – 2924 cm^{-1} (C-H), 1655 - 1410 cm^{-1} (O-C=O), 1411 - 1244 cm^{-1} (S=O), 862-854 cm^{-1} (KS-A) dan 825-823 cm^{-1} (KS-C).

Keywords : Chondroitin sulfate, isolation, fish, cartilage, characterisation