

**ISOLATION OF HYALURONIC ACID FROM YELLOWFIN TUNA
(*Thunnus albacares*) EYEBALL**

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ABSTRACT

Hyaluronic acid (HA) is commonly extracted from terrestrial and bacterial sources. However, due to the risk associated with either animal- and/or bacterial-derived contaminants and the laborious production processes that tend to compromise the quality of HA, research studies have recently shifted to the exploration of the presence of this polymer in marine resources and the enhancement of the protocols for HA production. Hence, this study focused on the isolation of HA from yellowfin tuna eyeballs. Results of the study showed that the optimum conditions for the isolation of HA from yellowfin tuna eyeballs are as follows: pretreatment of the raw material (acetone, formaldehyde and sodium acetate solution) prior to water extraction and incubation of the mixture for 24 h; tissue hydrolysis for a maximum of 6 h; a 3% CPC: 3M NaCl concentration for recovery and fractionation; and the use of 1:3 v/v supernatant: ethanol ratio for alcoholic precipitation. These results are expected to help maximize the benefits of the utilization of the tuna processing wastes in the country. Likewise, these findings may open a new opportunity for more cost-effective production of a valuable bioactive compound from marine source.

Keywords: *Thunnus albacares*, hyaluronic acid, waste utilization