

ABSTRACT

Islam teaches its followers to consume only the permitted products (halal and wholesome products) as can be seen in Qur'an Al-Baqarah verse 168. Halal is not only in food product but also in a pharmaceutical product. The development of the reliable method for producing the halal pharmaceutical product is very critical. One of the pharmaceutical product that has an important part in the pharmaceutical industry is gelatin. Gelatin is a purified protein obtained either by the partial acid hydrolysis (type A) or by the partial alkali hydrolysis (type B) of animal collagen. Gelatin from pig derivatives is more abundant compared to gelatin derived from halal animals. This research is looking for other alternatives as a halal source of gelatin. The fishbone gelatin is the prospective alternative to overcome the problems over haram gelatin, health risk and unacceptable ethnic of some mammalian gelatin. The research has been conducted to determine the soaking effect of Short Mackerel (*Rastrelliger brachysoma*) bone in the various acid treatment (chloride acid, phosphoric acid, and acetic acid) on the characterization of gelatin. The raw material was degreased, demineralized using three acid various, neutralized, extracted, filtered, frozed, evaporated and dried to produce gelatin powder. The gelatin powder was characterized to determine the value of moisture level, pH level, viscosity, and gel strength. The research data analyzed using SPSS 16, halal and Fourier Transform Infrared Spectroscopy (FTIR) identification described descriptively. The results of the experiment revealed that the best gelatin was produced by 4% of chloride acid treatment with 10.19% yield, 7.67% of moisture level, 5.560 pH level, 4.910 cPs viscosity, and 235.5 g.bloom gel strength. The Fourier Transform Infrared Spectroscopy (FTIR) Spectra showed four amide areas of gelatin group. The Short Mackerel (*Rastrelliger brachysoma*) can be used as one of the alternative sources for making halal gelatin. This halal gelatin do not only meet the halal standard of HAS 23000 but also SNI 1995 and GMIA 20112 standard of food and pharmaceutical gelatin. Statistical analysis showed that acid treatment gave significant effect ($P < 0.05$) on the

moisture level, pH level, viscosity, and gel strength.

Keywords: acid treatment, bone, halal gelatin, Short Mackerel

