PROTEIN DENATURATION INHIBITION EFFECTS OF SPINACH SPINE (Amarhantus spinosus L.) LEAVES ETHANOL EXTRACT ON Bovine Serum Albumin FOR ANTI-INFLAMMATORY COMPOUNDS SCREENING

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ABSTRACT

The aim of this research is to find whether spinach spine (Amarhantus spinosus L.) leaves ethanol extract are able to inhibit the denaturation of protein using bovine serum albumin as the screening assay for an anti-inflammatory compounds screening. This research aiming to replicate the inflammation process in an in vitro test using bovine serum albumin or BSA as the protein model. The sample were dried crushed before submerged with 96% ethanol as the solvent. The extraction method that were used in this research is maceration technique. Several concentration series were made for the spinach spine (Amarhantus spinosus L.) leaves sample which is 100 ppm, 10 ppm, 1 ppm, 0.5 ppm and for the positive control which is 40 ppm, 20 ppm, 10 ppm, 5 ppm, 2.5 ppm, 1.3 ppm by mixing it with bovine serum albumin solution. Each concentration were tested for it’s heat induced protein denaturation inhibition activity. The result from this research concludes that spinach spine (Amarhantus spinosus L.) leaves ethanol extract are able to inhibit the protein denaturation process as much as 73,006% or more than the minimum inhibition rate required for further anti-inflammatory drug development process.

Keywords: spinach, extract, denaturation, bovine serum albumin, anti-inflammation.