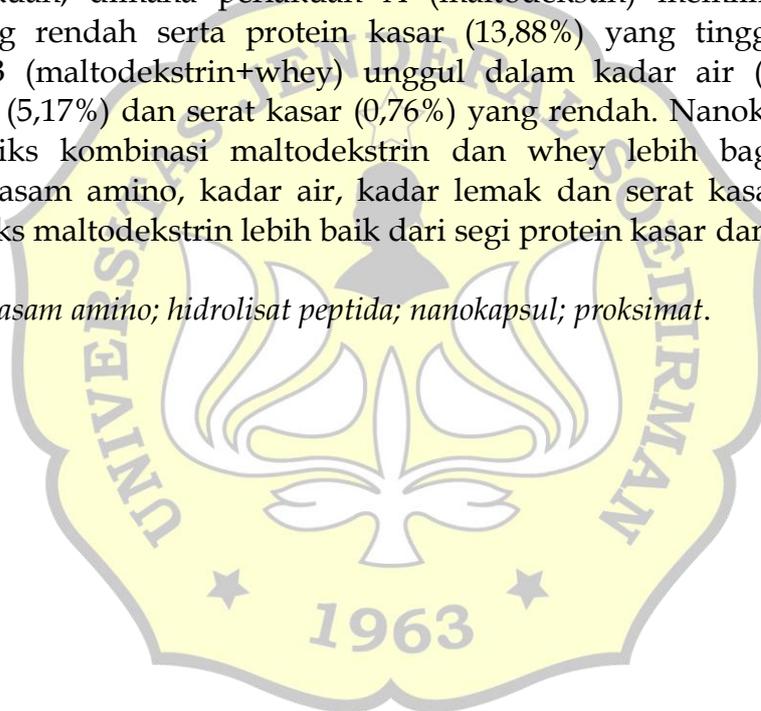# ABSTRAK

Penelitian ini berjudul Profil Proksimat dan Asam Amino Nanokapsul Hidrolisat Peptida Ikan Tuna (*Thunnus sp.*) dengan Bahan Matriks yang Berbeda. Nanokapsul hidrolisat peptida viseral ikan tuna merupakan produk bubuk berukuran nano yang didalamnya terkandung beberapa zat gizi. Penelitian ini bertujuan untuk mengetahui kandungan asam amino dan analisis proksimat pada bahan matriks yang berbeda yaitu perlakuan A (maltodekstrin) dan perlakuan B (maltodekstrin+whey). Metode penelitian terdiri dari beberapa tahap yaitu pembuatan nanoenmulsi, *spray drying*, dan analisis asam amino menggunakan HPLC. Analisis proksimat meliputi kadar air, protein, lemak, serat, dan abu. Hasil analisis asam amino menunjukkan terdapat 14 jenis asam amino pada perlakuan maltodekstrin (A) dan kombinasi maltodekstrin dengan whey (B), dengan kadar asam amino tertinggi terdapat pada perlakuan B (maltodekstrin+whey). Analisis proksimat mengungkap perbedaan nyata antar perlakuan, dimana perlakuan A (maltodekstin) memiliki kadar abu (1,32%) yang rendah serta protein kasar (13,88%) yang tinggi, sedangkan perlakuan B (maltodekstrin+whey) unggul dalam kadar air (3,47%) kadar lemak kasar (5,17%) dan serat kasar (0,76%) yang rendah. Nanokapsul dengan bahan matriks kombinasi maltodekstrin dan whey lebih bagus dari segi kandungan asam amino, kadar air, kadar lemak dan serat kasar, sedangkan bahan matriks maltodekstrin lebih baik dari segi protein kasar dan kadar abu.

Kata kunci: *asam amino; hidrolisat peptida; nanokapsul; proksimat*.

ABSTRACT

This study is entitled Proximate Profile and Amino Acids of Tuna *(Thunnus sp.)* Peptide Hydrolysate Nanocapsules with Different Matrix Materials. Tuna viscera peptide hydrolysate nanocapsules are nano-sized powder products that contain several nutrients. This study aims to determine the amino acid content and proximate analysis of different matrix materials, namely treatment A (maltodextrin) and treatment B (maltodextrin + whey). The research method consists of several stages, namely nanoemulsion preparation, *spray drying*, and amino acid analysis using HPLC. Proximate analysis included moisture, protein, fat, fiber, and ash content. Amino acid analysis showed 14 types of amino acids in maltodextrin treatment (A) and maltodextrin + whey treatment (B), with the highest amino acid content found in treatment B (maltodextrin + whey). Proximate analysis revealed significant differences between treatments, where treatment A (maltodextrin) had low ash content (1.32%) and high crude protein (13.88%), while treatment B (maltodextrin + whey) excelled in water content (3.47%), crude fat content (5.17%), and crude fiber (0.76%). Nanocapsules with a maltodextrin and whey matrix combination were superior in terms of amino acid content, moisture content, fat content, and crude fiber, while the maltodextrin matrix was better in terms of crude protein and ash content.

Keywords: amino acids; peptide hydrolysate; nanocapsules; proximate.