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## Effect of enzymatic hydrolysis on antioxidant capacity of cave edible bird's nests hydrolysate

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**Abstract** : Considering its high source of glycoproteins, the hydrolysates of Edible Birds Nest (EBN) is anticipated to potentially possess good commercialized functional properties. This study was conducted to determine the antioxidant capacity in EBN protein hydrolysates produced via enzymatic hydrolysis using alcalase and papain. EBN protein hydrolysate that had been hydrolysed for 2 hours showed 77.9% - 84.5% increments in degree of hydrolysis value compared to raw EBN. Meanwhile, for electrophoresis analysis, it showed that raw EBN samples contained molecular weight between 51.3 kDa to 123.0 kDa. Use of protease enzymes in this study successfully produced molecular weight of EBN protein that was lower than 51.3 kDa. Regarding to antioxidant analysis, alcalase hydrolysed EBN showed stronger radical scavenging activity as indicated by the IC<sub>50</sub> (0.2643 mg/g  $\pm$  0.05 and 1.619 mg/g  $\pm$  0.06) for DPPH and ABTS respectively, compared to papain (1.3972 mg/g  $\pm$  0.10 and 2.9073 mg/g  $\pm$  0.20). EBN hydrolysates contained more antioxidative amino acid residues such as amino acid aromatic and hydrophobic compared to raw EBN. As a conclusion, enzymatic hydrolysis had improved the functional properties of EBN while producing antioxidative peptides. **Key words**: Edible bird's nest, alcalase, papain, peptides, antioxidant activities.

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