

Effect of drying process assisted by high-pressure impregnation on protein quality and digestibility in red abalone (*Haliotis rufescens*)

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Abstract

Abalone (*Haliotis* spp.) is an exotic seafood product recognized as a protein source of high biological value. Traditional methods used to preserve foods such as drying technology can affect their nutritional quality (protein quality and digestibility). A 28-day rat feeding study was conducted to evaluate the effects of the drying process assisted by high-pressure impregnation (HPI) (350, 450, and 500 MPa x 5 min) on chemical proximate and amino acid compositions and nutritional parameters, such as protein efficiency ratio (PER), true digestibility (TD), net protein ratio, and protein digestibility corrected amino acid score (PDCAAS) of dried abalone. The HPI-assisted drying process ensured excellent protein quality based on PER values, regardless of the pressure level. At 350 and 500 MPa, the HPI-assisted drying process had no negative effect on TD and PDCAAS then, based on nutritional parameters analysed, we recommend HPI-assisted drying process at 350 MPa x 5 min as the best process condition to dry abalone. Variations in nutritional parameters compared to casein protein were observed; nevertheless, the high protein quality and digestibility of HPI-assisted dried abalones were maintained to satisfy the metabolic demands of human beings.

Keywords

Author Keywords: [Dried abalone](#); [Protein quality](#); [High pressure](#); [Biological evaluation](#); [Digestibility](#)

KeyWords Plus: [IN-VITRO DIGESTIBILITY](#); [MYOFIBRILLAR PROTEINS](#); [FUNCTIONAL-PROPERTIES](#); [CHEMICAL-COMPOSITION](#); [DIETS](#); [MEAT](#); [SALT](#)

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