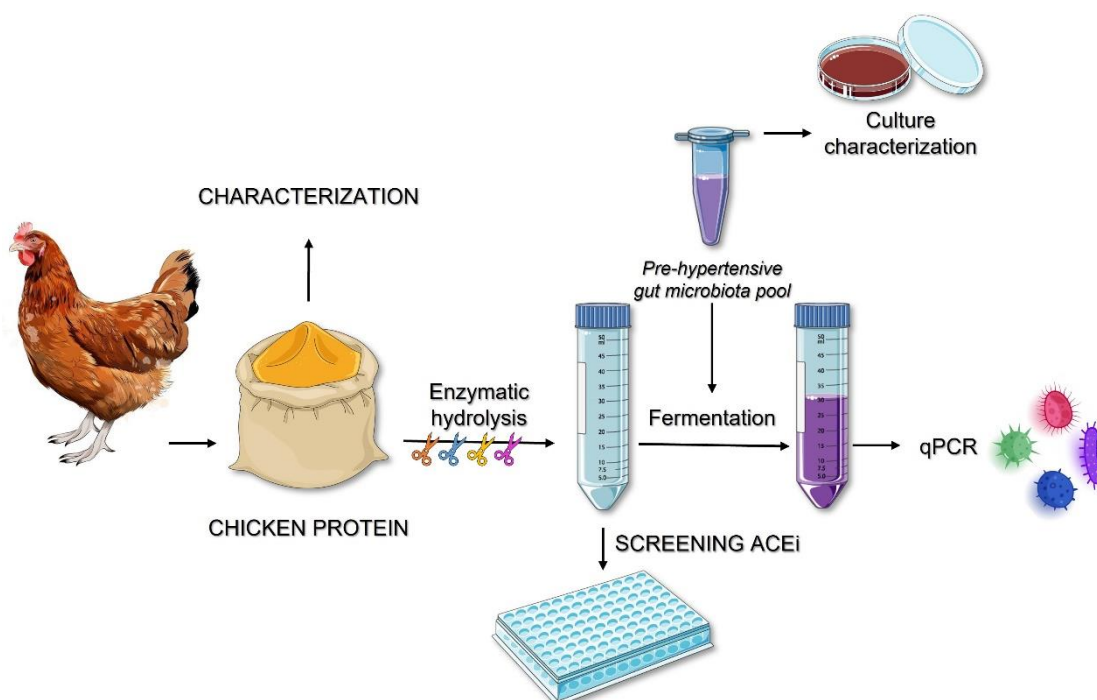


POTENTIAL OF MEAT BY-PRODUCTS HYDROLYSATES TO EXERT ANTIHYPERTENSIVE EFFECTS: ACE INHIBITORY ACTIVITY AND GUT MICROBIOTA MODULATION

Hypertension is one of the major risk factors for cardiovascular diseases and its prevalence is increasing worldwide. Current pharmacological treatments have several side effects and new alternatives are needed. In this regard, protein-rich food by-products are attracting attention as they have shown antihypertensive properties. Thus, the objective of this study was to investigate the *in vitro* potential of hydrolysates from a meat by-product protein to exert antihypertensive effects. To this aim, several hydrolysates were obtained using different food-grade enzymes and hydrolysis conditions. Then, angiotensin converting enzyme inhibitory (ACEi) activity and their potential to modulate fecal microbiota composition from pre-hypertensive patients were determined. For the latest, *in vitro* batch fecal fermentations were carried out and changes in some of the most relevant bacterial population (*Lactobacillus*, *Bifidobacterium spp.*, and *Bacteroides-Prevotella-Porphyromonas* groups) were quantified by quantitative Polymerase Chain Reaction. Most of the hydrolysates showed ACEi activity and modulated fecal microbiota. Interestingly, hydrolysis conditions influenced these effects. Hydrolysates H14, H16, H23, and H24 were identified as the best hydrolysates as they had the highest ACEi activity and prebiotic effect.

GRAPHICAL ABSTRACT



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