Pure Sciences **Poster**

Abstract ID: 121

Protein profiling of chicken breast muscles from different slaughter houses in relation to meat quality

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Introduction: Chicken meat is a source of protein in the human diet. Protein content and values define the quality of chicken meat. This research aimed to analyze variations of protein profiles in chicken breast muscles from different slaughtering houses by using proteomic strategies. **Methods:** Total proteins of chicken breast muscles from three different slaughtering houses (Sample A, Sample B and Sample C) were extracted and quantified by using Bradford assay. Then, the proteins were separated by SDS-PAGE to monitor the quality of extracted proteins. Protein profiles in different samples were compared by 2D-GE analysis. **Results:** The most highly expressed protein band was located between the molecular size of 37-50 kD in all samples and it was expected to be beta-actin. While resolved in 2D-PAGE, differences in protein expression were observed between samples. There were three spots expressed with highest intensity in Sample B compared to others. The protein spot detected at pH 5.28 and the size range between 50-75 kD was predicted to be NADPH-cytochrome P450 reductase (CPR), at pH 6.45 and molecular weight between 37-50 kD was expected to be creatine kinase M-type (M-CK) while at pH 6.78 and molecular size nearly 25 kD was expected to be αB-crystallin. **Conclusions:** It can be mentioned that these proteins could play a vital role in mechanisms that contribute to the poor quality of chicken meat.

KEYWORDS: Proteomic, meat quality, 2D-PAGE, SDS-PAGE