

**Isolation And Characterization of Antigenic Protein Strain Salmonella pullorum 11,
Salmonella pullorum AV And Escherichia coli K88
To Learn Cross Reaction On Pullorum Test**

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Abstract

Study in isolation and characterization on antigenic protein strain Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88 has been carried out to learn the cross reaction on pullorum test.

The study began with purifying bacteria strain Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K8, and producing polyclonal antibody on chicken. Next, antigenic protein Outer Membrane Protein (Omp) of Salmonella pullorum 11, Salmonella pullorum AV, Escherichia coli K88 and fimbriae Escherichia coli K88 is isolated. Isolation of protein Omp applies Matsujama method, while isolation of fimbriae applies the method of Erickson et al. The protein characterization is using the SDS-PAGE (Sodium Dodecyl Sulphate-Poly Acrylamide Gel Electrophoresis) method in order to know the weight of the protein molecule. From SDS-PAGE are then yielded some kinds of protein with certain molecule weight forming as band. The next step of characterization is western blotting by adding polyclonal antibody, so on Whatman paper will appear specific band. This proves that resulted band of western blotting is antigenic, the band is cut and eluted. The antigenic protein before and after elution is then tested on its antigenicity using ELISA technique.

The result of western blotting shows that, when Omp Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88 as well as fimbriae Escherichia coli K88 is reacted each against polyclonal antibody Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88, then it appears band with the molecule weight of 42-47 kD and 28-30 kD which are printed thick. Meanwhile, band protein with molecule weight 33-35 kD also appears, but thin. From ELISA indirect protein Omp Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88 before elution (whole protein) and after elution (weight molecule 42-47 kD, 33-35 kD, 28-30) against polyclonal antibody Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88 shows positive results. By using post hoc test HSD, it shows that protein Omp Salmonella pullorum 11 and Salmonella pullorum AV with molecule weight 42-47 kD, protein Omp Escherichia coli K88 with molecule weight 33-35 kD, and whole protein fimbria Escherichia coli K88, are the most antigenic and interact the most strongly against polyclonal antibody Salmonella pullorum 11, Salmonella pullorum AV and Escherichia coli K88.

It is concluded in this study that protein Omp Salmonella pullorum 11, Salmonella pullorum AV, Escherichia coli K88, and fimbriae Escherichia coli K88 have similarities; molecule weight 42-47 kD, 33-35 kD, and 28-30 kD are antigenic protein and causing cross reaction on pullorum test.