

# Sodium Dodecyl Sulphate Polyacrylamide gel electrophoresis (SDS-PAGE) and Silver Staining of distinct samples

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## Presentation Description:

Bacterial proteins are very complex that recognize and bind to the human cell surface and causes infection in human body. The purpose of this study to separate the complex mixture of proteins and detect the diversity of bacterial proteins that causes infection in human body so that it will be easy to make drugs and prevent distinct infections.

## Abstract:

SDS-PAGE is a technique to separate proteins from biological samples according to molecular mass. There are highly virulent and invasive pathogens that rapidly invade the host tissue barriers and causes infection in human body. The goal of this study is to gain better understanding of the molecular mechanism of a special bacteria infection into human biological tissues. To analyze the protein quantity in samples, electrophoresis has been performed. Firstly, polyacrylamide gel has been prepared that consists of stacking gel and separation gel.

Polyacrylamide gel line up all the protein samples that loaded in the gel and separates the sample proteins according to molecular mass during electrophoresis. To analyze the protein band, polyacrylamide gel has been stained with the silver nitrate solution. While visualizing the gel, the distinct bands with different intensities have been observed.

The size of the band reveals the size of protein. From this, the thicker and darker bands have been observed from cell lysates and membrane lysates instead of tissue samples. The sample with darker band represents higher amount of protein, whereas less bands or no bands can be little protein or no full-length proteins but proteolytic fragments. This allow us to find the diversity and size of proteins that are present in the bacterial samples.

## References/Acknowledgments:

Dr. Bingyun Sun, Chang Peggy