ANTIMICROBIAL ACTIVITY FROM SECRETORY CRUDE PROTEIN OF *Saccharomyces cerevisiae* COLLECTED IN SUMBAWA MARE MILK

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ABSTRACT

The aim of this study was to know any yeast in Sumbawa mare milk, the antibacterial effects against *Escherichia coli* and *Staphylococcus aureus*, and the secretory protein profile based on molecular weight by SDS-PAGE. Yeast was isolated by conventional methods in Saboraud Dextrose Agar (Merck), plates containing 0.05 mg/ml of chloramphenicol to inhibit bacterial growth and incubate at 37°C in 48 hours. Identification process include macroscopic, microscopic, biochemically test, and urea hydrolysis test. Antimicrobial activity was tested against *Escherichia coli* ATCC 25922 and *Staphylococcus aureus* ATCC 25923. Molecular weight was assayed by SDS-PAGE method. Yeast isolation and identification from Sumbawa mare milk found *Saccharomyces cerevisiae*. Secretory protein then tested against *Staphylococcus aureus* ATCC 25923 and *Escherichia coli* ATCC 25922 showed activity against *Staphylococcus aureus* ATCC 25923 about 8.167 mm, meanwhile antimicrobial acitivity against *Escherichia coli* ATCC 25922 about 6 mm. Each samples found protein with molecular weight about 21,5 kDa, except SKS3. It may be possible that protein with 21,5 kDa play a role in secretory protein's activity against *Escherichia coli* ATCC 25922 and *Staphylococcus aureus* ATCC 25923. Secretory protein produced by *Saccharomyces cerevisiae* more sensitive to Gram positive bacteria than Gram negative bacteria.

Keywords : Antimicrobial activity, Secretory crude protein, *Saccharomyces* cerevisiae, Sumbawa mare milk.