

ISOLATION, IDENTIFICATION, AND CHARACTERISATION OF
ANTIBACTERIAL ACTIVITY AND EXTRACELLULAR PROTEIN PROFILE
OF *Streptococcus equinus* BREEDING FROM SUMBAWA HORSE MILK

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ABSTRACT

The purpose of this research was to isolate and to identify *Streptococcus equinus* one of Lactic Acid Bacteria (LAB) from Sumbawa Horse milk, and further characterisation of antibacterial activity and protein profile. Three Sumbawa horse milk samples were obtained from three Sumbawa Horse milk farms located in some sub-district, at Sumbawa District of West Nusa Tenggara (NTB). Lactic acid bacteria was inoculated in MRS Broth, incubated at 37°C for 72 hours. Selection of LAB by overlay method on MRS Agar and NA using indicator reference culture, incubated at 37°C for 24 hours. Lactic acid bacteria identification was done by Gram staining and API kit 12B, and the protein profile was identified using SDS-PAGE method. The results showed that clear zone diameter could be observed against *Staphylococcus aureus* (ATCC 25923) as wide as 9.2 mm, *Escherichia coli* (ATCC 25922) 8.2 mm and *Bacillus cereus* (Microbiology Laboratory Faculty of Microbiology Laboratory isolate stock of Brawijaya university) 16.7 mm. Protein profile of *Streptococcus equinus* was detected 10 protein bands with molecular weight (MW) 24 kDa, 28 kDa, 32 kDa, 36 kDa, 39 kDa, 49 kDa and 100 kDa. It was concluded that in this study, had antibacterial activity and 10-bands protein profile *Streptococcus equinus* isolated from Sumbawa horse milk produces antibacterial by obtaining the 10-band protein molecular weight.

Key words: *Streptococcus equinus*, SDS-Page, Sumbawa Horse Milk