

**Yunita Silvia Putri, 2012, Screening and Testing The Protease Enzyme Activity of Bacteria From Waste of Slaughterhouse. This thesis was under the guidance of Fatimah, S.Si., M.Kes. and Dr. Sri Sumarsih, M.Si. Study Program Biology S-1. Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.**

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## ABSTRACT

The aim of this study was to explore protease producing bacteria from waste of slaughterhouse. Qualitative test to the bacteria that produce protease enzyme was conducted by using skim milk agar medium. Bacteria that have proteolytic activity were characterized by presence of clear zone around of the growing bacteria. The result of screening, were 5 isolates bacteria had proteolytic activity. They were RPH 1.1 with index of proteolytic 0,23; RPH 2.1 with index of 0,98; RPH 2.3 with index of 1,77; RPH 2.4 with index of 1,14; RPH 2.5 with index of 1,55. From the five were isolated bacteria above, one of them with the highest index (RPH 2.3) was selected to be tested in enzyme activity. Protease enzyme from RPH 2.3 was produced in medium that contain soluble skim milk 2% in Bussnell Hass liquid medium. The protease enzyme activity of RPH 2.3 was measured by Enggel *et al.* method, using UV-vis spectrophotometer at 660 nm. Measurement of protease enzyme test was determined against substrate by using soluble casein in phosphate buffer pH 7,0 and a temperature of 37°C. Protease activity from bacteria RPH 2.3 was 11,60 U/ml with optimum incubation on 20 hours at 37°C, pH 6,5 condition.

**Keywords:** proteolytic bacteria, protease enzyme activity, slaughterhouses