EFFECT OF POLYSACCHARIDE KRESTIN FROM *Coriolus versicolor* ON ANTIBODY TITER MICE EXPOSURE DUE *Pseudomonas aeruginosa*

Sri Puji Astuti Wahyuningsih[1], **Nadyatul Ilma Indah Savira**[1], **Win Darmanto**[1]

[1]Department of Biology, Faculty of Science and Technology, Surabaya, Indonesia
Email: sri-p-a-w@unair.ac.id

ABSTRACT

The best know commercial polysaccharopeptide preparations of *Coriolus versicolor* are polysaccharopeptide krestin (PSK). One of the most important functions of PSK is their immunomodulatory actions. The purpose of this study was to analyze the activity of polysaccharides krestin on antibody titer in *Mus musculus* were exposed to *P. aeruginosa*. Polysaccharide krestin fractionated and precipitated with 90% ammonium sulphate. Polysaccharide krestin given to the mice strain Balb/C. There were six treatment groups : (K) control , without giving PSK and without exposure to *P. aeruginosa*, (K +) positive control, giving PSK, (K -) negative control, exposure to *P. aeruginosa*, (P1) PSK administration before exposure to *P. aeruginosa*, (P2) PSK administration after exposure to *P. aeruginosa*, and (P3) PSK administration before and after exposure to *P. aeruginosa*. Polysaccharide krestin dose was 50 mg/kg bw administered for 7 days via gavage. Exposure to *P. aeruginosa* done 2 times with an interval of 2 weeks via intraperitoneal. Antibody titer were measured by ELISA. Data were analyzed by descriptive. The results showed that the polysaccharide krestin increased the antibody titer. Polysaccharides krestin can stimulate the immune response resulting from exposure to *P. aeruginosa.* Polysaccharides krestin can be useful as immunomodulator.

Keywords

Polysaccharide krestin, *Coriolus versicolor,* antibody titer, *Pseudomonas aeruginosa.*

INTRODUCTION

Pseudomonas aeruginosa is the extracellular bacteria that cause infections in humans, such as urinary tract infections, respiratory tract infections, gastrointestinal infections and dermatitis (Hauser *et al*., 2002). The bacteria produce enzymes and toxins that can damage tissues (Mayasari, 2005).

The extracellular bacterial internalization by the APC as macrophages, dendritic cells, B cells in association with MHC II. CD4 + T cells respond to these associations and produce cytokines. Cytokines can stimulate the production of antibodies, induces local inflammation, increase phagocytosis, and activates macrophages (Abbas *et al.,* 2003).

Based on the foregoing, we need a way to restore and improve the immune system due to bacterial infection. Material that serves to improve the function and suppress the overactive immune system called immunomodulators. Chu *et al.* (2002) reported that one of them is a natural material which is useful as a therapeutic agent is a fungus *Coriolus vesicolor*.

In vitro, yeast extract *C. vesicolor* effectively stimulate the activity of T lymphocytes, B lymphocytes, monocytes / macrophages, bone marrow cells, NK cells, and killer cells depends lymphocytes. Mushrooms also stimulate proliferation and or production of