The Study of Imunebooster Effect of Ethanol Extract of Mychorizza arbuscula Induced Ginger Rhizomes (Zingiber officinale Rosc.)

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Introduction
Ginger has been widely used as traditional medicine in many countries, especially in Indonesia, China, and Malaysia. The traditional use of red ginger is in accordance with its pharmacological activity and chemical content. Many studies have shown that red ginger exhibited pharmacological activities as an immunomodulator, antihypertensive, antihyperlipidemia, tonic, acetylcholine esterase inhibitor, antihyperuricemia, antimicrobial agent, and cytotoxic agent [1,2,3]. The anti-inflammatory properties can also help to treat migraine headaches, rheumatic and muscular disorders, arthritis, other inflammation related ailments and immunostimulant. The analyzed active compounds in ginger 6, 8 and 10-gingerols, as well as 6-shogaol [1,2,4]. The purpose of this study were to determine the effect of the ethanol extract of Mychorriza arbuscula fungi induced red ginger rhizomes (EMig) as imunebooster by increase the activity and capacity of macrophage cell phagocytosis, the total and the percentage of leucocytes of ipSA induced male albino mice.

Method
Sample (1 kg dried red ginger rhizome)
(1 Kg)
- grinded,
- maceration with ethanol
- evaporated

Viscoused extract
- animal treatment,
- administration of EMig (7 days)
- isolation and count leucocytes

Result
The results showed that EMig could increase the phagocytosis activity and capacity of macrophage cells significantly (P<0.05). The phagocytosis activity with given by EMig at concentration 30, 100 and 300 mg/kgbw were were 59 %,73%, 82% compared to control was 51.4%. The total of leucocytes were 4850, 6240 and 8400 cells/µL of blood respectively, compared to control was 4370 cells/µL of blood and reference 10020 cells/µL of blood with increase the number of lymphocytes.

Conclusion
The administration of EMig for 7 days could increase phagocytic activity macrophage (p< 0.05) of ipSA induced male albino mice . These findings indicate that Z. officinale rhizome have immunoabooster effect in vivo.

References
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