

## The Effect of *Sargassum duplicatum* as Adjuvant Therapy for Hemoglobin Level of *Rattus norvegicus* Infected by *Plasmodium berghei* Anka

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### ABSTRACT

**Background:** Malaria is a disease that is becoming a problem in endemic areas such as Indonesia. Resistance to antimalarial drugs led to increased mortality and morbidity. Parasites damage the host erythrocyte so that hemoglobin can be decreased. This study is a preliminary study to make mice infected by malaria parasite. The brown seaweed has as antimalarial activity and is rich in antioxidants.

**Objective:** To determine the effect of brown seaweed extract (*Sargassum duplicatum*) as adjuvant therapy for hemoglobin levels of white rats (*Rattus norvegicus*) wistar strain infected by *Plasmodium berghei*.

**Methods:** This study is an experimental study with the draft Post Test Only Control Group Design is done in the parasite laboratory of Veterinary Medicine, Airlangga University Surabaya. 25 Wistar rats were divided randomly into 5 groups, without inoculation group (IT), inoculation group (KN), artemisinin group (A), Sargassum group of 100 mg/kg BW (S1), Sargassum group of 300 mg/kgBW (S2) by using a ratio scale.

**Results:** 25 samples met the inclusion criteria. By statistical test One-Way ANOVA, there is a significant result ( $p=0.001$ ;  $p<0.05$ ) the existence of the effect of brown seaweed (*Sargassum duplicatum*) as adjuvant therapy for hemoglobin levels in rats (*Rattus norvegicus*) wistar strain infected *Plasmodium berghei*.

**Conclusion:** The brown seaweed extract (*Sargassum duplicatum*) as adjuvant therapy effect on hemoglobin levels in rats (*Rattus norvegicus*) Wistar strain infected by *Plasmodium berghei*.

**Keywords:** Malaria, *Sargassum duplicatum*, Hemoglobin levels

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