

ABSTRACT

Indonesia is one of the mega-diverse countries, with an abundance of natural resources that possess great potential for drugs, in particular herbal medicines. Indonesian herbal medicines are broadly utilized for treating numerous diseases, which have been handed down from generation to generation since centuries ago. Among other claims, immunostimulants have been the main interest for quite some time due to their broad-ranging usage to treat numerous infectious diseases and immune-related diseases. Tamba Toya Sajiwani is a traditional herbal drink made and consumed exclusively in Bali to prevent and treat different diseases. In this study, the immunomodulatory activity of Tamba Toya Sajiwani was evaluated for the first time *In vivo* through carbon clearance assay and total as well as differential leukocyte count. Administration of herbal drink (Tamba Toya Sajiwani) was found to stimulate immunological activity in ddY mice. Treatment with an herbal drink (Tamba Toya Sajiwani) every 12 hours and 24 hours (8.8mL/kg body weight; PO) were found to enhance the total leukocytes count after 14 days of the treatment period. However, monocytes, neutrophils, and eosinophils were found to be less responsive to the immunostimulating effect of herbal drinks (Tamba Toya Sajiwani). Oral administration of herbal drink (Tamba Toya Sajiwani) also showed a significant enhancement in phagocytic activity when compared to the control (CMC-Na) group, immunostimulant comparator (Stimuno Forte®; 12 hours and 24 hours), and immunosuppressant comparator (cyclophosphamide) in mice. The results of this study suggested that the herbal drink (Tamba Toya Sajiwani) is able to modulate the immune system via activation of phagocytic cells and increase in the total leukocyte count. Therefore, herbal drink (Tamba Toya Sajiwani) given every 12 hours and 24 hours could be used as a potential immunomodulatory agent.

Keywords: *Immunomodulatory activity, Herbal drink, Total leukocytes count, Phagocytic index.*