ABSTRACT

IN VIVO ANTIMALARIAL ACTIVITY and HEPATOPROTECTIVE OF PHARMACEUTICAL PRODUCT OF ANDROGRAPHOLIDE (*Andrographis paniculata* Ness)

Andrographis paniculata Ness is empirically used for malarial remedies in Indonesia as a traditional medicine. The antimalarial activity of *A.paniculata* that was depend on androgapholides (diterpene lactone compounds) have been investigated. The formulation of phytopharmaceutical containing *Andrographis paniculata* Ness's diterpene lactones fraction as active substances from *A. paniculata* was developed and their antimalarial activity against *Plassmodium berghei* were examined.

In vivo antimalarial assay on *Plasmodium berghei* infected mice was done using Peter's test methode (the 4-Day suppressive test of blood schizontoside action). This test was carried out by oral administration of the product. Treatment groups were devided into A) Tablet test I : solid dispersion formula of diterpene lactones fraction; B) Tablet test II : wet granulated formula of diterpene lactones fraction ; C) Tablet test III : wet granulated of ethyl acetate fraction of *Andrographis paniculata* Ness. The given dose of each group were equivalent to 12,55mg /Kg mice Body weight of andrographolide; twice a day for 4 consecutive days.

The result showed that group A, B, and C were inhibit parasite's growth for 80,35%; 78,15%; 70,15% respectively compared to untreated group. The reasearch revealed that tablet test I, showed the highest antimalarial activity among all group.

In vivo hepatoprotector assay on *Plasmodium berghei* infected mice was done using the same mice that received Peter's test method on *In vivo* antimalarial assay. The blood sample was taken in day-5 and day-7 of treatment to check the SGOT (Glutamat Oksaloasetat Transaminase Serum) and SGPT (Glutamat Piruvate Transaminase Serum) data.

Based on it's SGOT and SGPT data, this three formula have a weak hepatoprotective activities, despite it's relative high antimalarial inhibition activitie's value. It is Tablet test II that have a significant difference compared to

the negative control when analized with Least Significan Difference (LSD) methode.

Using also LSD methode, we can conclude that the Activities of the tablet is mainly due to the active ingredients used in it. Diterpenlacton tablet (Tablet test I and II) provides better activity than the ethyl acetate fraction tablet (Tablet test III) of andrographolide.

To provide more safety and efficacy data of this tablets, it is recommended to begin a research in clinical phase of this tablet.

Key words : Antimalarial activity, *plasmodium berghei*, Inhibition of parasite's growth, Hepatoprotective