

## **Abstract**

**Because venomous snake is the animal under protection, the venom collection is more difficult than as before. And the purchase price of immunogenic horses is expensive. To promote the quality of antivenin, we plan to improve the production of antivenin, trace the changes of hemo-chemistry and cell-mediated immunity during immune inducing of immunogenic horses and try to understand the reasons of low antivenom antibodies. Through the hemo-chemistry survey of this research, we could know the health and physiological changes of the antivenin horses immediately. By keeping watch the condition, when any disease occurred, we could make the treatment in time. As such process, we could get the best-qualified antivenin while the horses are in the best physiological condition. We could also understand the changes and influence of venom on hemo-chemistry and immunology of the horses. The cell-mediated immunity in this research was surveyed by flow cytometry and tested the percentage of CD4+, CD8+ and CD5+ T lymphocytes in peripheral blood lymphocyte. By doing so we could understand the cell-mediated immunity changes after the horse get the injection of venom. Compared with the antivenom titer in serum, we could know the relationship between cell-mediated immunity and the antivenom titer in serum. Finally, we could use the results from this research to choose the horses with well-immunogenic ability to produce the antivenin more effectively. We could decrease the cost and increase the quantity and quality of the antivenin.**

**Keywords : flow cytometry ; cell immunity ; PBL ( peripheral blood lymphocyte) ; venom ; antivenin**