

***Centella asiatica* L. Urban Extract's Immunomodulator Effect over the IgG of Male Mice Induced by BCG Vaccine**

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UMY

INTRODUCTION

Centella asiatica L. Urban (CA) with local name *Pegagan* has been reported as traditional medicine to cure post-surgical wound on cutaneous level and ulceration. CA has also been known empirically for its benefit as stamina supplement for some population but only few accessible and supportive researches has been done.

In 2013, 9 million people around the world had been infected by Tuberculosis (TB). There were around 1.5 million TB-related deaths worldwide. BCG Vaccine provides the preventive action to against TBC in human body. These lead us to conduct this study to find the possibility from herbs to improve the IgG after BCG vaccination.

STUDY OBJECTIVE

To prove the immunomodulation effect of ***Centella asiatica* L. Urban** over the IgG of male mice induced by BCG Vaccine

Investigational Product

- BCG Vaccine : bacille Calmette-Guerin, is a vaccine for tuberculosis (TB) disease → **All Group**
Dosage : 6,5 µl/20g BW
- Aquadest : Placebo → **Group I**
- Levamisole : this medication stimulates the body's immune system to help treat and protect against illness (Control +)
Dosage : 18,2 mg levamisol → **Group II**
- Prednisone : corticosteroid used for suppressing the immune system and inflammation (Control -)
Dosage : 2,4 mg prednison → **Group III**

Investigational Product

- *Centella asiatica extract (CAE)* :

Kingdom	Plantae
Subkingdom	Viridiplantae
Infrakingdom	Streptophyta
Superdivision	Embryophyta
Division	Tracheophyta
Subdivision	Spermatophytina
Class	Magnoliopsida
Superorder	Asteranae
Order	Apiales
Family	Apiaceae
Genus	L. Centella L.
Species	Centella asiatica (L.) Urb

CAE DOSAGE GROUPING :

50^{mg}/_{Kg} **BW (Group IV)**
100^{mg}/_{Kg} **BW (Group V)**
150^{mg}/_{Kg} **BW (Group VI)**
200^{mg}/_{Kg} **BW (Group VII)**



PROCEDURES

The study used 50% ethanol to extract the whole part of CA by maceration

Extract evaporation into its viscous form.


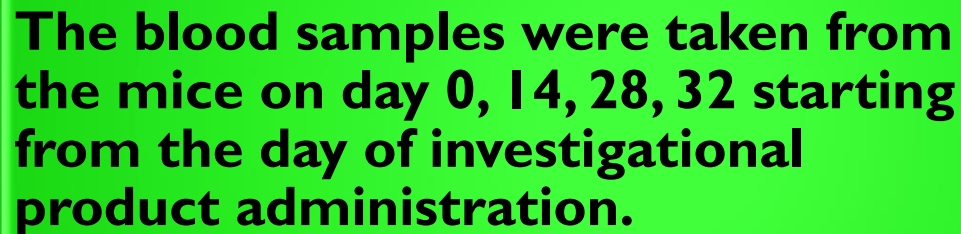
The viscous extract was divided into some dosages to be administered to the mice :
50^{mg}/_{Kg} BW, 100^{mg}/_{Kg} BW, 150^{mg}/_{Kg} BW, and 200^{mg}/_{Kg} BW.

PROCEDURES

The dosages were administered orally in daily measure.



The blood samples were taken from the mice on day 0, 14, 28, 32 starting from the day of investigational product administration.



IgG analysis was conducted using ELISA reader.





CAE administration procedure

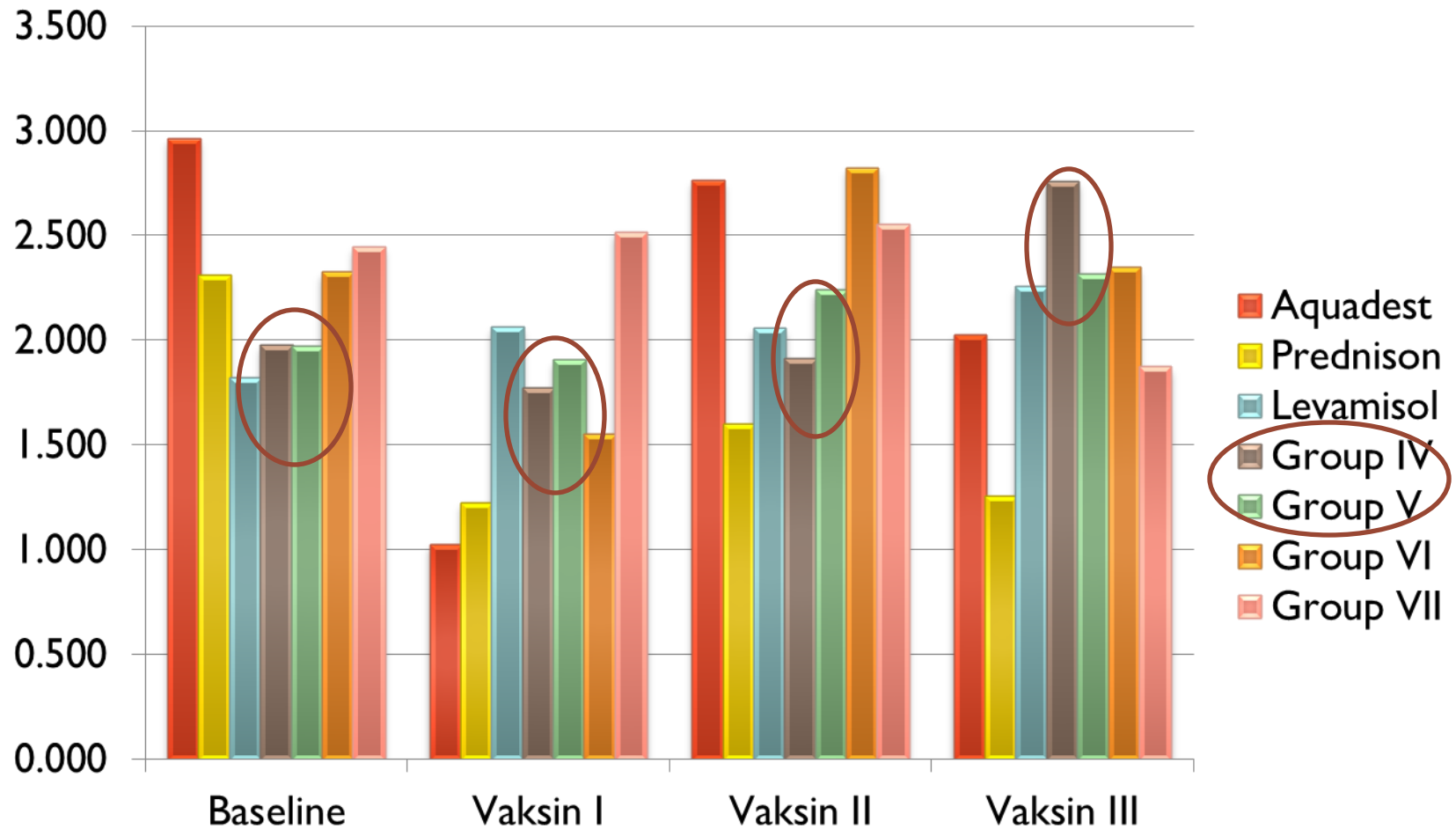


BCG vaccination procedure



Blood drawing procedure

ELISA result of IgG



Conclusions

The study result proved the immunostimulant effect of *Centella asiatica* extracts on dosage group $50^{\text{mg}}/\text{Kg}$ BW and $100^{\text{mg}}/\text{Kg}$ BW after each BCG vaccine administration.



THANK YOU.....