

## A comparison of effect of new formulation antigen on Th1 & Th2 cytokine profiles, and their relationship with spleen' white pulp size expansion in balb/c mice, post challenging with *Leishmania major*

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Human leishmaniasis is distributed worldwide, but mainly in the tropics and subtropics, with a prevalence of 12 million cases and an approximately incidence of 0.5 million cases of VL and 1.5 million cases of cutaneous leishmaniasis (CL). *Leishmania* parasites are vector-born protozoan pathogens found in tropical and subtropical regions of both the old and new world. The disease in human can be divided into cutaneous, visceral, and mucosal syndromes. The aim of this study was to conduct more experiments over our previous new formulation modify leishmania major antigen that had satisfactory results, before.

In this study we have made preliminarily new vaccine with the same methodology again and selected two injection doses (100 & 200 µg/0.1ml), three injection groups: *Leishmania* plus BCG (LB), *Leishmania* plus new adjuvant (Teucrium Polium)[LT], *leishmania* plus BCG and Teucrium Polium (LBT), and one susceptible mice (Balb/c) and measure two type cytokines: Th1 (IFN-γ, IL-12) and Th2 (IL-4, IL-10) and expansion of white pulp size after challenge with live leishmania. Results show that both doses over LBT group have highest IL-12, lowest IL-10 and highest increasing in spleen's white pulp size, whether; other two groups have lower IL-12, higher IL-10 and lowest increasing in spleen's white pulp size in susceptible mice. When all of the three groups and two genius Balb/c mice (male/female), considered, and without consideration injection dose, the largest white pulp size were seen in female Balb/c LBT group, and smallest white pulp size were seen in male Balb/c LT group).

**Conclusion:** Our study show that in Balb/c mice, best injection group that produced highest IL-12 and lowest IL-10 and highest increasing in spleen's white pulp size, is LBT group, which have significant differences with others. This finding show that, adjuvant BCG both Teucrium have synergic effect with together.

### Biography

Afshineh Latifynia has completed her M.Sc. at the age 33 years from Tehran University and is studying M.Phil. courses of her Ph.D. in Primary Immunodeficiency Research Center in Faculty of Medicine, Tehran University of Medical Sciences (TUMS). She has published more than 10 papers in PubMed, Scopus, and one of them had choice as ten top articles in 2010, and top twenty in 2011, and another one, as twenty five hot tops article in 2010. She has three articles under review and also has two articles in the pre submit step. She is teacher and researcher in the Department of Immunology, Faculty of Medicine, TUMS, and her Ph.D. thesis is about MSMD (Mendelian Susceptibility Mycobacterium Disease).

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