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THE ROLE OF ADJUVANT ON SAFETY AND ANTIBODY MODULATION OF DROMEDARY CAMEL

M.I. Ahmad[1], H.S. Issa[1], S.H. Yousef[1], P.A. Shihab[1] and K.M. Al-Qaoud[1,2]

[1]Jordan Company for Antibody Production (MONOJO), Amman, Jordan
Research and Development department, P.O Box 675, AL-Jubiha, 11941 Amman, Jordan
[2]Department of Biological Sciences, Yarmouk University, Irbid, Jordan

ABSTRACT

Adjuvants selection is a subject of wide research in veterinary vaccines industry. In camels, adjuvant can modulate the production of either heavy chain (HCAbs) or conventional antibodies and both are of a valuable therapeutic interest. This study compared safety and immunogenicity of vaccine mixed with different adjuvants, Marcol™52, Stimune® and Alum in dromedary camels. Camels were injected with heat killed *Propionibacterium acnes (P. acnes)* bacteria mixed with different adjuvants. Reactogenecity (Inflammation and skinfold thickness), IgG response, isotypes modulation and complement fixation were measured. Stimune® vaccine showed severe reaction (87 mm) and induced marked percent increase in anti-*P. acnes* IgG1 and HCAbs (86.24 ± 3% and 58.76 ± 3.9%, respectively). However, Marcol™52 and Alum vaccines enhanced lower elevation in HCAbs (29.18 ± 9.3% and 8.4 ± 0.87 %, respectively). Both conventional and HCAbs induced by all vaccines against *P. acnes* were capable of activating the complement system. The highest complement fixing (CF) IgG2 was induced by Stimune® (28.46%), whereas, Marcol vaccine induced the highest CF IgG3 (9.94%). In conclusion, although Stimune® vaccine, was the most reactogenic adjuvant in camels it induced the highest HCAbs with complement fixing IgG2, whereas, Alum, the safest adjuvant induced the lowest antibody response but still capable of inducing complement fixing HCAbs.

Key words: Adjuvants, antibodies, camels, complement fixation test, heavy chain antibody. immunologic, inflammation