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The Cellular Populations of Normal Camel (*Camelus dromedaries*) Milk

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ABSTRACT

Overwhelming demand on the camel milk has considered camel mammary glands as an important organ. However, poor research of the camel mammary glands immune system is considered major obstacle in improving the camel welfare. The cellular population of camel milk at the mid-lactation was exploited using overlapping reactive antibodies. The CD markers and adhesion molecules, $CD3^+$, $CD8^+$, WC + 1^+, CD62L, CD11b/c (MAC-1)and the LPAM-1 were studied with flow cytometer. The high expression of $CD3^+$, $CD8^+$, WC+1^+ and LPAM-1 was detected in all of the examined samples. The CD62L, CD11b/c expression were not detected consistently. The cross reacted antibodies with camel CD markers have revealed interesting overview of the nature of the cellular activities in the camel mammary glands at the lactation period. The level of $CD8^+$ cells is in parallel with the findings at the cattle mammary glands. The high level of WC + 1^+ $\gamma\delta$ cells in camel milk, despite the stage of the lactation and age, could indicate their significant role in the immunity of the camel mammary glands. The expression of the LPAM-1 on the lymphocytes has provided further support to the notion that the lymphocytes trafficking to the camel mammary glands could be of mucosal nature.

KEYWORDS

Camel; Mammary Glands; Wc1; Cd8; Lymphocyte Trafficking; Lactation

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