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EXPRESSION OF AQUAPORIN 1 IN THE TESTIS AND EPIDIDYMIS OF THE DROMEDARY CAMEL (*Camelus dromedarius*) IN RUTTING AND NON-RUTTING SEASONS

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ABSTRACT

The present study clarified the expression of AQP1 in the testis and epididymis of dromedary camels. The immunohistochemistry showed that AQP1 was moderately expressed in the cranial and caudal parts of the testis and the rete testis during the first half of the rutting season in October and increased rapidly until December. The expression decreased and remained strong until March of the following year. The testis recovered to being highly immunoreactive to AQP1 during the whole non-rutting season. The same pattern expression of AQ1 was present in the testicular spermatozoa. The testis had distinct histological changes where the seminiferous tubules' size and the interstitial tissue's density varied by season. In the initial part of the breeding period, the epididymal head's epithelium exhibited moderate reactivity to AQ1 and increased strongly towards the tail. Through the remainder of the rutting season, a moderate immunoreactive to AQ1 was recognised in the epididymal epithelium and sperms. The non-breeding time showed very strong immunoreactive to AQP1 in the epididymal epithelium and spermatozoa. The epididymis' histology revealed a noticeable seasonal variation. These findings could suggest that AQ1 is essential for the dromedary camels' spermiogenesis.

Key words: Aquaporin1, dromedary camel, expression, epididymis, testis