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LOCALISATION OF AQUAPORIN1 IN THE VAS DEFERENS AND PROSTATE GLAND OF THE DROMEDARY CAMEL (*Camelus dromedarius*) DURING RUTTING AND NON-RUTTING SEASON

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ABSTRACT

A membrane protein channel, Aquaporin 1 (AQP1), enables the fast water flow through the epithelium. Using the immunohistochemistry technique, the current work elucidated the presence of AQP1 in the vas deferens and prostate gland of dromedary camels in rutting and non-rutting seasons throughout the year. The immunohistochemistry of AQP1 revealed a strong immunoreactive in the epithelial cells of the initial vas deferens at the beginning of the rutting season (October and November). During December and January, this expression became moderate, and by its end (February and March), it seemed pale. The middle vas deferens epithelium and luminal sperms displayed high levels of AQP1 protein in the first and second third of the season. There has been little immunoreaction to the protein in recent months. At the start of the rutting season, the ampullary vas deferens moderately reacted to AQP1 antibodies; however, from December through March, this response decreased to a weak state.

In the non-rutting season, the middle part of the vas deferens exhibited a significant immunoreaction to AQP1. The initial vas deferens showed a strong immunoreaction in April and May before decreasing to appear mildly for the remainder of the season. AQP1 showed a weak expression in the ampulla at this time. AQP1 was not clearly expressed by the prostate gland over the year. In conclusion, it is possible that AQP1 has a role in spermatozoa migration via the male genitalia of camels and may even facilitate the flow of water, which is necessary for sperm motility.

Key words: Aquaporin 1, camel, immunohistochemistry, prostate gland, vas deferens