Detection of caprine arthritis-encephalitis virus (CAEV) in semen of bucks [1]

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Abstract

Artificial insemination (AI) is essential to improve animal production performance. Although it greatly reduces the risk of pathogen transmission, some studies have been performed to quantify this risk. The aims of this experiment were to perform caprine arthritis encephalitis virus (CAEV) monitoring in semen, and to use a screening method named nested polymerase chain reaction (nested PCR) as a reference for the control of CAE. Blood samples of thirteen Nubian goats from a Taitung goat farm were used for test. The collected serum were evaluated for anti CAEV antibodies using a commercially available ELISA kit (Chekit ® CAEV/MVV, Liebefeld Bern, Switzerland). The DNAs were extracted from the blood and semen, and used nested PCR for viral detection. Semen samples were collected and separated into three distinct fractions: seminal fluid (SF), enriched non spermatozoa cell (NSC) and spermatozoa (SPZ). Nested PCR was used to detect the presence of CAEV proviral DNA in the blood and semen. Ten CAEV seropositive bucks were positive for nested PCR CAEV proviral DNA but only six semen samples were positive for CAEV DNA in non-spermatic cells and seminal plasma. No CAEV proviral DNA was identified in the spermatozoa fraction. The presence of CAEV proviral DNA in non spermatic cells and seminal plasma. This study clearly demonstrates the presence of proviral DNA in naturally infected caprine semen.

Key words: Goat, Caprine arthritis-encephalitis, Nested PCR.

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