Evaluation of Loop-Mediated Isothermal Amplification (LAMP) assay for diagnosis of Theileria annulata in both cattle and Buffaloes in Upper Egypt.


Abstract:

Loop-Mediated Isothermal Amplification (LAMP) assay was used for detection of Theileria annulata infection in field samples from both cattle and buffaloes. These samples were collected from three governorates in Upper Egypt that include Assiut, EL-Fayoum and EL-wady EL-Gaded governorates. Reverse Line Blot (RLB) assay was used as a reference test for evaluation of LAMP assay efficacy in the diagnosis of bovine theileriosis. The obtained results revealed that according to the results of LAMP assay the infection rates were 65.24% and 43.24% in cattle and buffaloes, respectively. The evaluation study of LAMP test revealed high sensitivity in cattle (78.10%) if compared with buffaloes (47.37%). Specificity was higher in buffaloes (61.11%) if compared with cattle (57.53%). This study concluded that the LAMP assay was sensitive and specific assay in diagnosis of Theileria annulata infection. So, it is recommended to use LAMP assay, especially during molecular epidemiological surveys, which should be applied on a wide range because it will give a clear picture about the epidemiology of the disease, which helps in its prevention and control.

Keywords:

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