ABSTRACT

The objectives of this study were to: 1) investigate the suitable primers for detecting tick fever from *B. bigemina*, *B. bovis* and *A. marginale* by PCR – technique, and 2) find the association of BoLA-DRB3 alleles related with *B. bigemina*, *B. bovis* and *A. marginale* resistant. Blood samples from 217 Crossbred Holsteins (TMZ) were drawn from jugular and tail veins for isolating the DNA to detect the infection of tick fever and genotyped for DRB3.2. The results found that primers AM01/AM02, BbF/BbR and BgF/BgR were suitable for detecting *A. marginale*, *B. bovis*, and *B. bigemina* respectively. The accuracy of PCR technique was higher than blood film technique. The serial dilution show that tick born disease could be detected although DNA template was very low in PCR technique. In addition, to detect *B. bovis* use higher DNA template than the others.

A total of alleles were found in the 34 study of BoLA-DRB3.2 by PCR-RFLP technique twenty - three alleles were similarity found to the previous reports and 11 alleles were firstly found in this report. The study of associations between BoLA-DRB3.2 alleles with tick born disease by Logistic regression technique. Only alleles with higher than 3 percentage of frequency were used in the analysis. BoLA-DRB3.2 showed no with *B. bigemina* and *B. bovis* (P>0.05) but BoLA-DRB3.2*51 was found association with *A. marginale* resistance (P<0.05). There was no significant association between age of with the infection of *A. marginale* (P>0.05), while milking cows had tentative to found more *A. marginale* infection compare to heifer and dry cows (P<0.10)