

CLONING AND CHARACTERISATION OF *THEILERIA PARVA* RESA2 ORTHOLOG

Richard T. Kangethe^{1,2}, Evans Taracha², Roger Pelle², Wallace D. Bulimo¹, and Nyerhovwo J. Tonukari²

1Department of Biochemistry, University of Nairobi, P.O. Box 30197, 00100–Nairobi, Kenya.

2International Livestock Research Institute, P.O. Box 30709, 00100–Nairobi, Kenya.

ABSTRACT

The ring infected surface antigen (RESA) is released from dense granules of *Plasmodium falciparum* when the parasites invade red blood cells. A malaria trial vaccine using RESA in combination with merozoite surface proteins 1 and 2 was reported to have an efficacy of 62% in reducing parasite density in Papua New Guinean children. Both RESA and its homolog, RESA2, belong to a class of heat shock proteins with DnaJ domain. An ortholog of the gene coding for RESA2 was isolated and characterized from the East Coast Fever parasite, *Theileria parva*. The deduced amino acid sequence of the *T. parva* RESA2 gene is very similar to the *P. falciparum* protein (38% identity). And like RESA and RESA2, the *T. parva* RESA2 ortholog possesses the DnaJ domain and putative transmembrane regions. The *T. parva* RESA2 gene as well as the expressed protein will be assayed for CD8+ and CD4+ T-Cell response, respectively.