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Title	TICK SALIVA PROMOTES ALTERATIONS ON CELL CYCLE PHASES OF PMA-STIMULATED LYMPHOCYTES: IMPLICATIONS ON BOVINE IMMUNITY TO OTHER DISEASES
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INTRODUCTION: The tick *Riphicephalus microplus* affects bovine homeostasis through its saliva that is inoculated on host skin promoting many alterations on inflammatory and memory immune response in

susceptible-taurine and resistant-indicine breeds. **OBJECTIVE:** Since T lymphocytes play a key role on memory immune response to many infections and parasitic diseases, this study aimed to verify the effect of tick saliva on naive non-activated and Phorbol 12-myristate 13-acetate (PMA)-stimulated mononuclear cells from Holstein (HPB; taurine cattle) and Gir (indicine cattle). **MATERIAL AND METHODS:** Peripheral mononuclear cells from both naïve bovine breeds (n=8/group) were isolated by Ficoll Gradient (GEhealthcare, USA) and marked with BD Horizon™ Violet Cell Proliferation Dye 450 (BD Biosciences, USA). After 96 hours of incubation with tick saliva (1:1,000 and 1:10,000 dilutions) and PMA (5ng/ml), or its both combinations, the cells were harvest, dyed with DRAQ7™ (Deep Red Anthraquinone 7, BD Biosciences) and fixed with formaline 2% for cell cycle evaluation at BD FacsVerse flow cytometry. All data were analyzed at FlowJo (BD Biosciences) and the Mean Fluorescent Intensity (MFI) plotted for statistic analysis at Sigma Stat software (Systat Software Inc., USA). **RESULTS**: Tick saliva affects differently the cell proliferation and cycle phases G1 and S on both bovine breeds. Gir cells present lower MFI at G1 phase and an arrest on S phase of cells incubated with both PMA and tick saliva (1:1,000 and 1:10,000 dilutions; $P<0.05$) when compared to Holstein cells. The lymphocyte gate present higher numbers of proliferation peaks at susceptible animals. **CONCLUSIONS**: Tick saliva acts on cell proliferation affecting not only the phenotype of tick infestations present by bovine breeds, but also the memory immune response to other diseases, by interfering on cell cycle and proliferation of stimulated lymphocytes.

Palavras Chave Cell cycle,Bovine,Tick Riphicephalus microplus