

MODULATION OF DENDRITIC CELLS DERIVED FROM CANINE MONOCYTES BY PARASITES OF THE GENUS *LEISHMANIA*

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INTRODUCTION

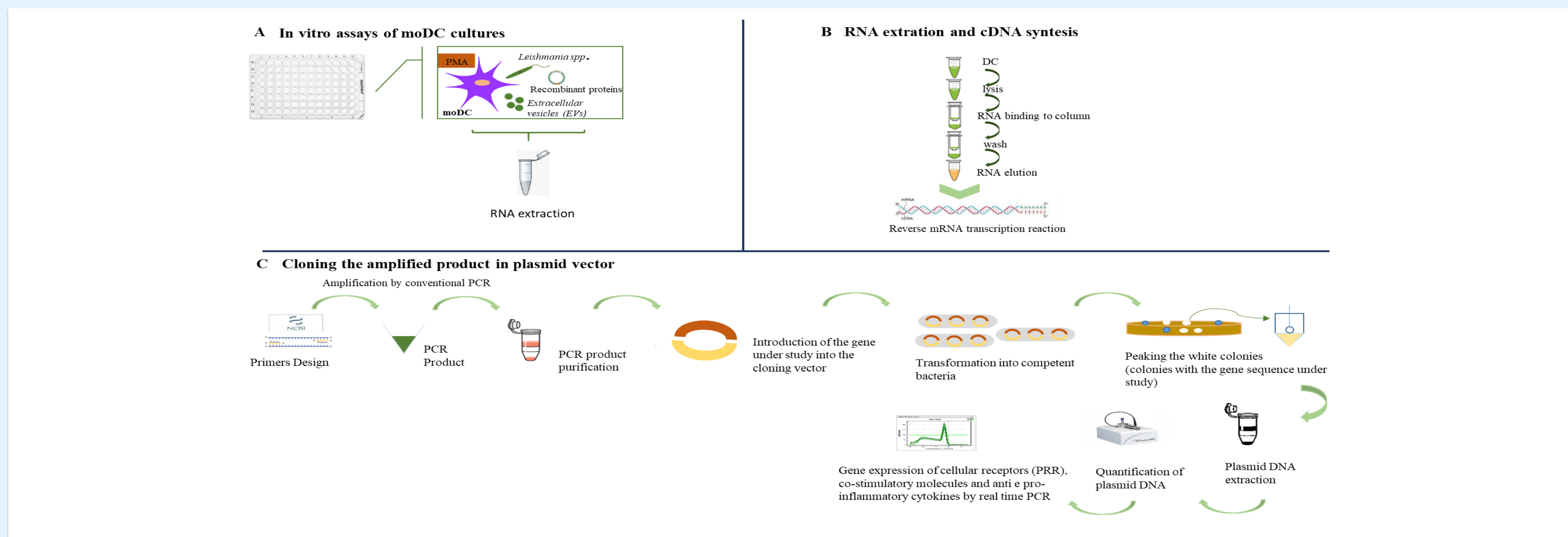
The dog is the principal reservoir of *Leishmania infantum* the etiological agent of zoonotic visceral leishmaniasis. Dendritic cells (DC) express a repertoire of innate pattern recognition receptors (PRR) on the cell surface (TLR2 and TL4), on the intracellular membranes (TLR9) and in the cytoplasm (NOD2). Such receptors recognize specific and conserved structures of pathogens [1].

As part of the immunosurveillance system, the PRR of immature DC bind to pathogen structures (antigens or nucleic acids), promoting DC maturation and activation. Activated DC migrate to the nearest lymph nodes, differentiating into antigen-presenting cells and inducing T lymphocyte activation [2]. Antigen presentation involves co-stimulatory molecules and the production of immune mediators, such as cytokines and chemokines.

OBJECTIVE

The present study aimed to investigate the ability of dog monocyte derived-DC-derived (moCD) to initiate the immune response after recognition of *Leishmania infantum* parasites, extracellular vesicles (EVs), and recombinant proteins.

EXPERIMENTAL DESIGN



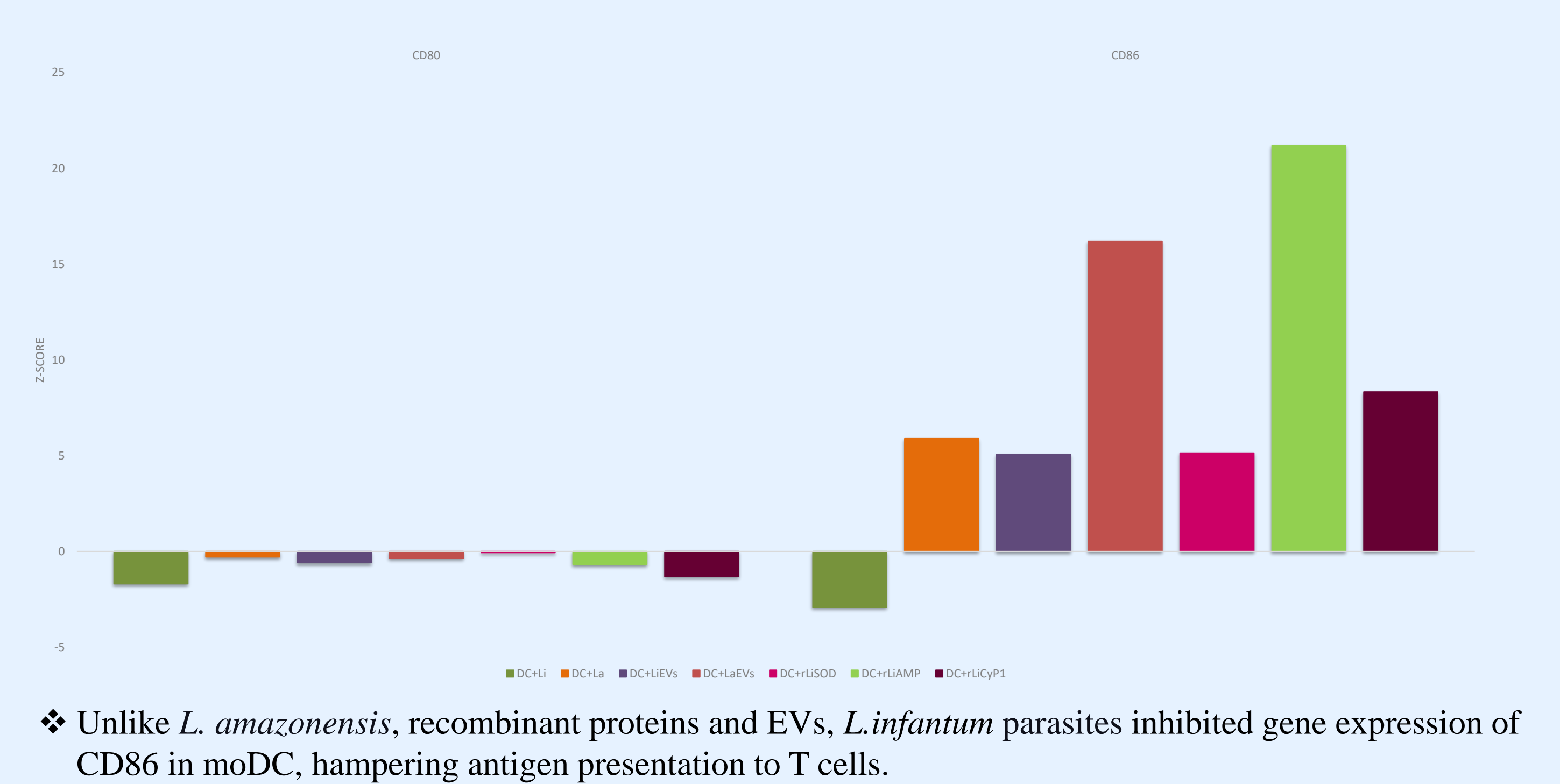
RESULTS

Gene expression of cellular receptors (PRR), co-stimulatory molecules and anti e pro-inflammatory cytokines of *L. infantum* or *L. amazonensis* infected moDC, of moDCs stimulated by extracellular vesicles of *L. infantum* (LiEVs) or *L. amazonensis* (LaEVs) and recombinant proteins of *L. infantum* (LiSOD, rLiAMP, and rLiCyP1) are represented by the following figures.

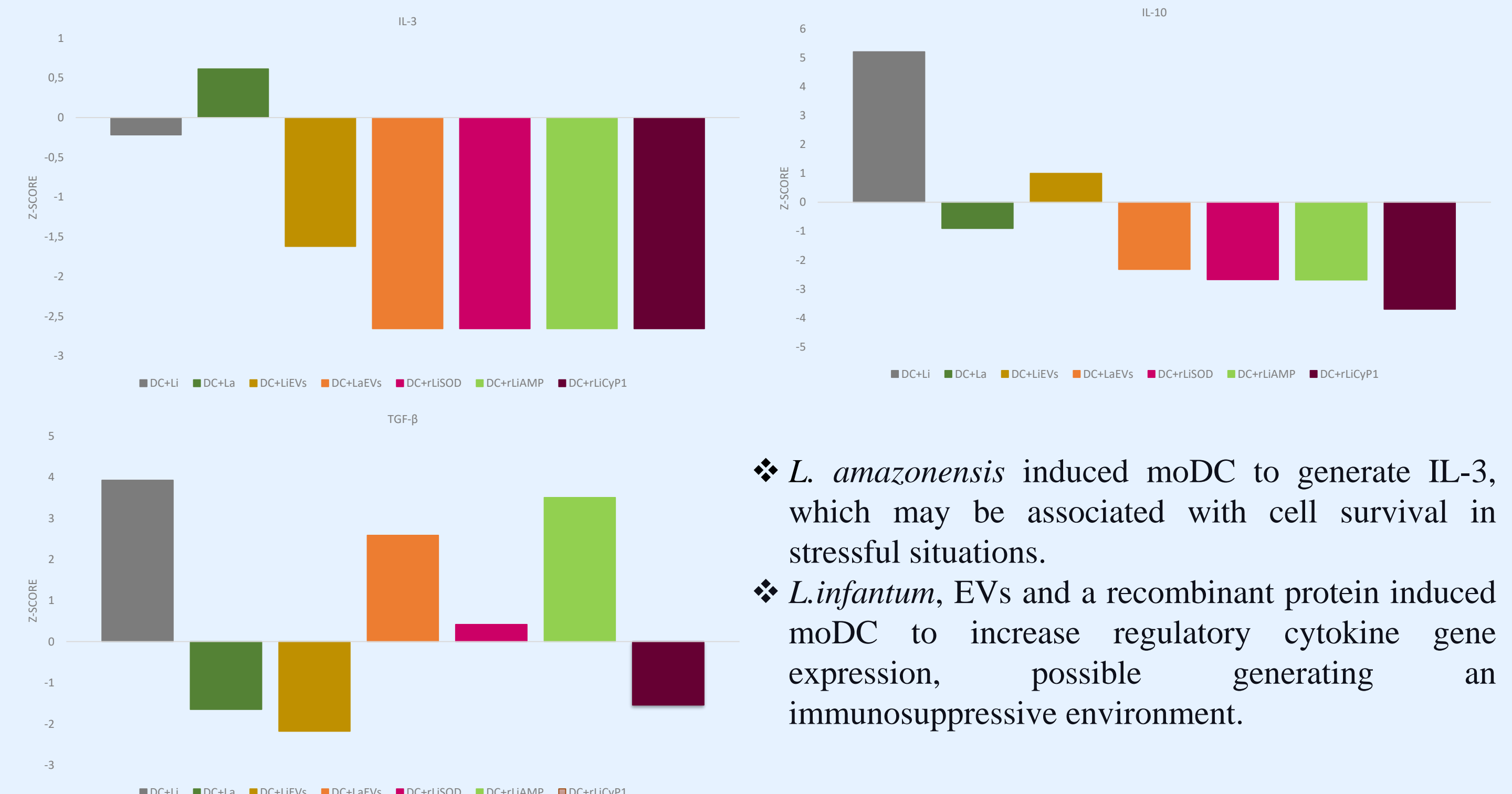
PRR



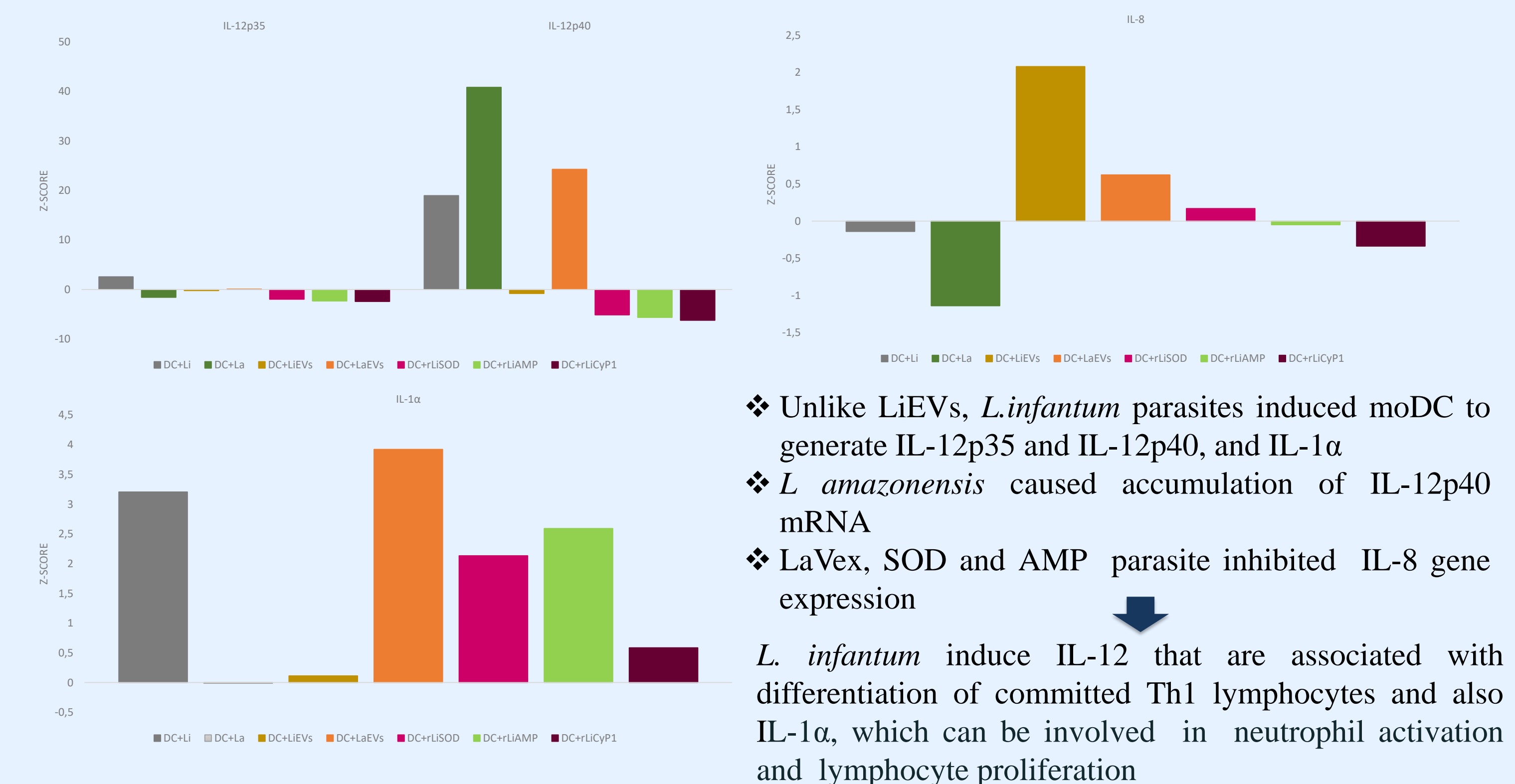
Co-stimulatory molecules



Anti-inflammatory cytokines



Pro-inflammatory cytokines



CONCLUSION

Dog DC differentiated *in vitro* from peripheral blood monocytes can recognize *L. infantum* parasites by the cell membrane and intracellular PRRs and promote proinflammatory cytokine generation.

However, *L. infantum* seems to negatively interfere with the antigen presentation to T cells and modulate moDC to promote an immunosuppressive environment, probably hampering the establishment of an effective cellular immune response. On the other hand, EVs and recombinant proteins seem to favour antigen presentation.