

Poster

# Effect of priming on the immunomodulatory response of mesenchymal stem cells (adMSC) with immunogenic synthetic peptides from *Leishmania braziliensis*



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## ABSTRACT

Leishmaniasis is a zoonotic disease that causes major public health problems, mainly in tropical or subtropical countries, causing approximately 70,000 deaths per year and currently there is no approved vaccine. Therefore, research into the development of effective therapies that help both the elimination of the parasite and the aesthetic recovery of wounds, through the search for synthetic antigenic systems with immunogenic activity, is nowadays a necessity. Recently, the immunotherapeutic potential of human mesenchymal stem cells (hMSCs) and the secretome and exocytic vesicles they produce when cultured in specific media have been described [1]. It has also been described that they have regenerative and antimicrobial potential and that these effects are enhanced when stimulated with different antigens. The present study aimed to characterize the secretome of hMSCs, treated with synthetic immunogenic peptides from *Leishmania braziliensis*, and to evaluate their immunomodulatory potential. Adipose tissue-derived hMSCs, which were characterized according to international standards [2], were used. For this work, cells at passage eight were exposed to two synthetic immunogenic peptides MSD1 and CBP, designed in silico, from *L. braziliensis* and lipopolysaccharide (LPS) as a positive control. The secretome was collected at 48 and 96h and characterized firstly by measuring the expression of Interleukin 6 (IL-6) by an ELISA method and the expression of cytokines and other proteins using an 80- antibodies targets in a chemiluminescence panel. The results have shown a proinflammatory profile at the level of cytokine expression for the treatments with MSD1, CPB and LPS [3,4]. These were characterized by an increase in the expression of proinflammatory cytokines such as INF- $\gamma$ , IL-6, IL-16, TNF- $\alpha$  and TNF- $\beta$ . In summary, the secretome of adipose tissue hMSC pre-treated with synthetic immunogenic peptides from *L. braziliensis* presents differences in the level of cytokine expression with a tendency towards a proinflammatory profile.

## REFERENCES

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