

IMMUNOMODULATORY ACTIVITY OF *CASTELA TEXANA* METHANOLIC-EXTRACT ON THE PRODUCTION OF NITRIC OXIDE IN MURINE MACROPHAGES

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Abstract: *Castela texana* (Torr. & A. Gray) Rose is a native plant to the arid regions of northern Mexico, whose medicinal properties includes antipyretic, antiparasitic, antibacterial and immunomodulatory activity. The objective of this work was to evaluate the immunomodulatory activity of the methanolic-extract of *Castela texana* leaf on the production of nitric oxide in murine peritoneal macrophages, since these cells are the major players of the first line of defense of the immune response. The cytotoxicity of *Castela texana* methanolic-extracts (10, 100 and 1000 µg/mL) was evaluated with a haemolytic activity model. Then thioglycollate-elicited peritoneal cells were cultured and tested for nitric oxide production, which was determined by Griess method at 6, 12 and 24 h post-treatment within the following experimental groups 1) Negative control supplemented with 2% PBS, 2) Positive control supplemented with 2% LPS extract, 3) Positive control supplemented with 2% complete Freund's adjuvant, and 4) *Castela texana* supplemented with 2% methanolic-extract 10 µg/mL. The *Castela texana* methanolic-extract showed a high cytotoxic activity so only the lowest concentration (10 µg/mL) was evaluated on the production of nitric oxide in murine macrophages. The *Castela texana* extract triggered a high production of nitric oxide at short times (6 and 12 h) compared to the concentration of nitric oxide induced by the positive controls with LPS and complete Freund's adjuvant. It can be concluded that this extract may act as an acute activator of nitric oxide production in macrophages, settling an antecedent to study the use of *Castela texana* compounds as immunological adjuvants.

Keywords: *Castela texana*, Nitric oxide, Murine macrophages

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