

An Ecto-ATPase Activity Present in *Leishmania tropica* Stimulated by Dextran Sulfate

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In this study we report the effects of sulfated polysaccharides on the ecto-ATPase activity of intact cells of *Leishmania tropica*. Increasing concentrations of dextran sulfate stimulated progressively the ecto-ATPase activity, but did not modify other ecto-enzymes present on the surface of this parasite, such as 5' nucleotidase, 3' nucleotidase and a membrane-bound acid phosphatase activity. This stimulation was not observed when other sulfated polysaccharides such as chondroitin sulfates and heparin were tested. It depends on size and charge of the dextran sulfated molecule. When the cells were incubated in the presence of dextran sulfate *Mr* 8,000; 40,000 and 500,000 the stimulation of the ecto-ATPase activity was 11%; 23%; and 63%, respectively, and the stimulation was not observed when desulfated dextran (*Mr* 40,000) was used. The effects of dextran sulfate also depend on pH of the medium. At pH 7.5, the stimulation was over 60%, whereas at pH 8.5 only 25%. The effects of dextran sulfate 500,000 on the ecto-ATPase activity was totally abolished by spermidine and partially by putrescine, two polyamines synthesized and released by *Leishmania*.