**ABSTRACT**

**Background:**Cutaneous leishmaniasis (CL) is a vector-born disease transmitted by infected female sandflies and caused by several species of obligate intracellular protozoan parasites. The global incidence of CL is estimated to 2 million cases per annum with most of the reported cases from Latin America, the Mediterranean, the Middle East and Central Asian regions. In Israel the incidence of CL, mainly caused by *L. major*, has remained relatively stable over the years with 0.2 - 7 cases per 100.000. However, in recent years major outbreaks of CL with hundreds of new cases have been reported in the outskirts of Jerusalem, Tiberias, and the West Bank. These new cases are caused exclusively by *L. tropica,* which has a less benign clinical course, and is more refractory to treatment.

**Purpose**: To compare the *in vitro* sensitivity of *L. tropica* promastigotes to paromomycin and sodium stibogluconate

**Methods:**Parasites were obtained form18 frozen samples of *L. tropica* standards . The samples were thawed and cultured as extracellular promastigotes. Sensitivity to sodium stibogluconate and to paromomycin was performed by analyzing the metabolic activity of the parasite using a fluorescent viability assay, AlamarBlue, based on the reduction of Resazurin by the parasites NADPH or NADH dehydrogenase. Viable parasites are fluorescent.

**Results:**Only 11 of the 18 thawed samples could be grown to adequate concentrations.  For 8 of the 11 strains the sensitivity to paramomycin was higher than the sensitivity to sodium stibogluconate*.*

**Discussion:** In the clinical *in vivo* situation, sodium stibogluconate is more effective than paramomycin in the treatment of *L. tropica* skin lesions, as opposed to our *in vitro* results. This shows that *in vitro* sensitivity testing on the extracellular promastigote form does not correlate well with *in vivo* sensitivity.