The antileishmanial effects of Lowsonia inermis and Cedrus libani on Leishmania major promastigotes

Abstract

Leishmaniasis is a parasitic disease caused by different species of protozoan parasites belonging to the genus Leishmania. In this study, Leishmania major (MRHO/IR/75/ER) promastigotes were cultured at 23–25 °C in brain heart infusion (BHI) medium supplemented with 10 % heat-inactivated fetal bovine serum (FBS) and penicillin and streptomycin. Antileishmanial effects of Lowsonia inermis and Cedrus libani methanolic extracts (0.07, 0.15, 0.31, 0.62, 1.25, 2.5, 5, 10 mg/mL) on Leishmania major promastigotes were evaluated using the MTT (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay. All experiments were repeated at least three times. Cedrus libani methanolic extract did not show any activity while Lowsonia inermis methanolic extract inhibited the growth of promastigote forms of L. major in vitro after 72 h of incubation and had a 50 % inhibitory concentration (IC50) of 1.25 mg/mL. The methanolic extract of Lawsonia inermis (henna) can be a promising antileishmanial agent in the future. Further experiments are needed for isolation of active fractions and identification of the active components of methanolic extract. © 2016, Indian Society for Parasitology.