BACKGROUND:
Currently there is no vaccine available in use against any form of leishmaniasis worldwide.

OBJECTIVE:
To assess potential of a live-attenuated Leishmania major promastigotes, for protection against a challenge infection with L. major in BALB/c mice.

DESIGN:
A laboratory based study.

SETTING:
Study was carried out at Centre for Biotechnology Research and Development, Kenya Medical Research Institute, Nairobi.

RESULTS:
The greatest protection against challenge with L. major was seen in mice immunised with live parasites (P < 0.001) compared to vaccinations with heat killed or soluble antigens. In general, immunised mice produced high level of antileishmanial antibodies and T cell stimulation to their respective antigens.

CONCLUSIONS:
Our live-attenuated parasites produced by serial sub-culture of L. major parasites 118 times showed the capacity to induce appropriate cell-mediated immune responses and protection against L. major infection in BALB/c mice. Data also suggests that these parasites do not revert to virulence when injected subcutaneously in mice.