Detection And Molecular Analysis of Kinesins in Local Leishmania L.*Tropica And L. Donavani In Iraq*

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The Kinesin KIF13 has been identified as a motor protein which has nuclear localisation specifically at the spindle and spindle poles in some kinetoplastids. Five Kinesin-13 members have been shown in *T. brucei*. TbKIF13-1 is a nuclear protein, TbKIF13-2 and TbKIF13-4 display a flagellar localisation, TbKIF13-3 and TbKIF13-5 are in the cytoplasm. TbKIF13-2 functional analysis in homology proved that the overexpression of TbKIF13-2 reduces flagellum length slightly. Five kinesin-13 family members that belong to the KIF24 subfamily have been identified in the genome of *Leishmania major*, two of them LmjKIN13-1 and LmjKIN13-2 have been characterised. LmjKIN13-1 has a nuclear localisation specifically at the spindle and spindle poles. Kinesin-13 (MCAK/KIF2) members exhibit a microtubules depolymerising activity responsible for their function in mitosis. The present study focused on the KIF13 in local *Leishmania. Sp* in Iraq. Firstly *L.Tropica* which responsible for cutaneous leishmaniasis and *L. donavani* responsible for visceral leishmaniasis or kala-azar, the most severe form of leishmaniasis. Initially, PCR technique was used to detect LmxKIF-13 gene, followed by sequence analysis. The study, aimed to identify the function LmKIF-13 in both *Leishmania*. The kinesin motor protein LmKIF-13 in *L.donovani* and *L.Tropica* can be used as therapeutic and potential vaccine candidate against leishmaniasis.

Key words, Kinesin, motor protein, LmKIF-13, microtubules polymerizing depolymerizing protein.