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Studies on expression of gamma glutamylcysteine synthetase (γGCS) in *Leishmania tarentolae*

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Leishmaniasis is a disease that causes significant mortality and morbidity. In the last five years, 1 million cases of cutaneous leishmaniasis (CL) have been reported and 300,000 cases of visceral leishmaniasis (VL). There have been 20,000 deaths/year and 310 million people are at risk of infection. At present there is no clinical vaccine for this disease. We have shown that vaccination with recombinant (γGCS) produced in *Eschericheria coli* can protect against CL and VL in murine models. However in this expression vector truncated recombinant protein was produced. Therefore, we carried out studies to determine if we could produce better quality γGCS in *L. tarentolae*, which is phylogenetically more related to *Leishmania*. We successfully produced a construct that allowed transfection of *L. tarnetolae* with the gene sequence of γGCS from 3 different *Leishmania* species. Western blot studies showed that full-length protein was produced indicating that *L. tarentolae* may be a better expression vector than *E. coli*.

Biography

1996-2000 B.Sc. in Biology/ Microbiology from Al-Mustansiria University-Iraq.
2007-2009 M.Sc. in Microbiology from Pune University-India.
2013 Started my PhD study at Strathclyde University (SIPBS) with the project of "Developing a vaccine against Leishmania Spp.

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