

Institute of Pathology (IOP), New Delhi

Detection of Kala-azar and Post Kala-azar Dermal Leishmaniasis

Product/Process: Method for detection of kala-azar and post kala azar dermal leishmaniasis (PKDL).

Application/Uses: The test provides a diagnosis of Kala-azar and PKDL with 96% sensitivity.

Salient Technical Features: PCR assay has been developed to amplify kinetoplast DNA(kDNA) of *Leishmania donovani*. With Indian strain and isolates of *L. donovani*, the assay was sensitive enough to detect kDNA in an amount equivalent to single parasite or less. The minicircles of k DNA have been used as a target for selective amplification of parasite DNA. The identification of conserved sequence elements represents within the kDNA of a given species of *Leishmania* would allow the species specific identification of parasites in clinical samples.

Scale of Development: This method has been developed up to laboratory scale.

Status of Commercialization: Technology is being commercialized.

Monoclonal Antibody for *Chlamydia trachomatis*

Product/Process: Serovar specific monoclonal antibody for *Chlamydia trachomatis*.

Application/Uses: It is used for the diagnosis of *C. trachomatis* infection.

Salient Technical Features: *Chlamydia trachomatis* is a human mucosomal pathogen, which causes three forms of disease, trachoma, genital infection and lymphogranuloma venereum. It is divided into 15 serovar A, B, Ba, C, D, E, F, G, H, I, J, K, L₁, L₂ and L₃ and amongst them D to K are common causes of genital infection throughout the world. To know the prevalent serovar of *C. trachomatis* in female genital tract, genotyping was done using PCR followed by restriction fragment length polymorphism (PCR-RFLP). Predominance of serovar D was found in female genital tract. To develop the indigenous diagnostic assay for *C. trachomatis*, a serovar D specific monoclonal antibody has been developed

using hybridoma technology from an Indian patient's isolate. This developed anti-chlamydial clone can be used for detection of *C. trachomatis* infection.

Scale of Development: This method has been developed up to laboratory scale.

Status of Commercialization: Technology is being commercialized.

Dot-blot assay for *C. trachomatis* infection

Product/Process: Oligonucleotide primers for amplification and cloning of chlamydial heat shock protein 60 (cHSP60) genes.

Application/Uses: A process for amplifying cHSP60 gene by polymerase chain reaction (PCR).

Salient Technical Features:

- Dot-blot assay for prognosis of severe sequelae to *C. trachomatis* infection using chlamydial heat shock protein 60.
- Sequelae like infertility and ectopic pregnancy in women.
- A pair of oligonucleotide primers for amplifying cHSP60 gene from *C. trachomatis*.
- Amplification is performed by PCR.

Scale of Development: The technology has been developed up to laboratory scale.

Status of Commercialization: An Indian Patent (Application no. 1861/DEL/2008) has been filed.