

## Whatman paper (FTA cards) for storing and transferring Leishmania DNA for PCR examination

Fata, A.<sup>a</sup>, Khamesipour, A.<sup>b</sup>, Mohajery, M.<sup>c</sup>, Hosseininejad, Z.<sup>a</sup>, Afzalaghaei, M.<sup>a</sup>, Berenji, F.<sup>a</sup>, Ganjbakhsh, M.<sup>a</sup>, Akhavan, A.A.<sup>d</sup>, Eskandari, E.<sup>b</sup>, Amin-Mohammadi, A.<sup>b</sup>

<sup>a</sup> Dept. of Parasitology, Emamreza Center for Education and Research, **Mashhad University of Medical Sciences**, Iran

<sup>b</sup> Center for Research and Training in Skin Diseases and Leprosy, Tehran **University of Medical Sciences**, Iran

<sup>c</sup> Dept. of Parasitology, Gha'em Center for Education and Research, **Mashhad University of Medical Sciences**, Iran

<sup>d</sup> Dept. of **Medical Entomology and Vector Control**, School of Public Health, Tehran **University of Medical Sciences**, Iran

[View references \(۱۲\)](#)

### Abstract

Background: Diagnosis of cutaneous leishmaniasis (CL) is often made based on clinical manifestation. Correct diagnosis and identification of the parasite are crucial for choosing the effective treatment and for epidemiological studies. On the other hand, determination of Leishmania species is necessary for designing appropriate control programs. Diagnosis by PCR is becoming a 'gold standard'. For PCR preparation, storage and shipments of specimens are necessary. In this study, Whatman filter paper (FTA Card) was used to store and transfer samples for Leishmania identification using PCR. Methods: Among the patients who had CL lesion and referred to Parasitology Laboratory of Emam Reza Hospital, Mashhad, Iran, ۴۴ consented cases with positive results in their direct smear were selected. An informed consent form and a questionnaire were completed and three different types of samples (direct smear, NNN culture, and spot on FTA card) were collected. DNA extraction and PCR were carried out on three different samples from each patient. Results: PCR results using Whatman paper samples revealed a significant difference ( $P < 0.001$ ) compared to the culture method but no significant difference was seen between PCR results using samples stored on Whatman paper and direct smears. Conclusion: The use of FTA cards is simple, rapid, and cost-effective, and can be readily employed for large-scale population screening, especially for regions where the specimens are to be transported from distant places to the laboratory.

### Reaxys Database Information

### Author keywords

Leishmaniasis; PCR; Whatman filter paper

### Indexed Keywords

**EMTREE drug terms:** DNA

**EMTREE medical terms:** adolescent; adult; article; bacterium identification; blood smear; child; clinical article; comparative study; controlled study; cost effectiveness analysis; diagnostic test; DNA extraction; female; filter; gold standard; human; human cell; human tissue; informed consent; Iran; Leishmania; male; nonhuman; patient referral; polymerase chain reaction; preschool child; questionnaire; school child; screening test; skin leishmaniasis; storage; whatman paper

**Chemicals and CAS Registry Numbers:** DNA, ۹۰۰۷-۴۹-۲

**ISSN:** ۱۷۳۰۷۰۲ • **Source Type:** Journal **Original language:** English

**Document Type:** Article