

Leptospira Biflexa Antigen

Cat. No. LEP-484 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Leptospira biflexa antigen (strain Patoc 1) is a non-pathogenic organism, which can be used as a prototype antigen for the development and manufacturing of diagnostics reagents such as ELISA. *L. biflexa* is cultivated in broth culture and after harvest extracted by ethanol. The antigen is suitable for the detection of IgM and IgG antibodies against *Leptospira* spp.

Background

Leptospirosis is a widespread zoonotic disease caused by systemic infection by pathogenic spirochetes of the genus *Leptospira*. *Leptospira* spp. are thin (0.1 µm diameter and 6–20 µm in length), flexible, motile, spiral-shaped bacteria and are surrounded by an outer envelope or external sheath which covers the cylindrical body. Two periplasmic flagella are located at opposite ends of the cell, with the free ends overlapping in the centre of the cell. The flagella are located between the outer envelope or sheath and the protoplasmic cylinder. The cytoplasmic contents are contained within the protoplasmic cylinder. A variety of protective and genus-specific antigens are located in the outer envelope and Lipopolysaccharide material appears to be an important antigenic component (Evangelista & Coburn, 2010).

Members of the genus *Leptospira* are conventionally grouped into two separate species based on pathogenicity. The pathogens form the parasitic 'interrogans' group whereas the non-pathogens form the saprophytic 'biflexa' group. Further distinction of these two species is based on serology where serologically related serovars are grouped into serogroups. Both pathogenic and saprophyte *Leptospira* species exist in nature (Woo et al., 1997). A wide variety of different mammalian species may be infected by pathogenic leptospires, which cause only a mild chronic-to-asymptomatic infection in reservoir hosts (such as rodents). However, bacteria are then shed by the

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host in urine and contaminate the environment, potentially leading to an infection in humans (Leptospirosis). Humans, are considered incidental hosts and symptoms can range from a mild and self-limited illness to much more severe symptoms (Weil's disease) including multiple organ system complications and death (Adler & de la Peña Moctezuma, 2010).

Leptospira biflexa is a free-living saprophytic spirochete present in aquatic environments and does not infect animal hosts. *L. interrogans* and *L. biflexa* are morphologically similar, but can be distinguished from each other on the basis of pathogenicity to animals, serological properties or phenotypic characteristics.

Normally, *L. interrogans* but not *L. biflexa* can be isolated from a patient's blood, urine, cerebrospinal fluid or aqueous humor. However, epidemiological studies may require samples to be taken from fresh surface water of lakes or streams where *L. interrogans* and *L. biflexa* may coexist (Woo et al., 1997).

As the initial presentation of leptospirosis may be difficult to discern from some other infectious diseases, rapid and accurate diagnosis is essential in order to prevent the progression of the more severe form of the disease, particularly in developing countries. The available diagnostic tests are not always serovar-specific, because cross-reactivity against different serovars may occur between organisms in the same serogroup. There are also currently no widely available vaccines against leptospirosis for use in humans (Evangelista & Coburn, 2010).

This antigen has been manufactured for the application of basic research to improve *Leptospira* diagnostics and vaccine development.

Formulation

100 mM glycine buffer, pH 9.5.

Applications

For immunoassay development or other applications

Notes

This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.

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ClassID 1 Infectious Disease

GENE INFORMATION

Synonyms Leptospira Biflexa (Strain Patoc 1)

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