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## **Product Information**

**Name of Kit:** **ImmunoComb<sup>®</sup> Bovine Leptospira  
Antibody Test Kit**

**Catalog No:** 50BLH103/ 50BLH130

**No of Tests:** 30 (Standard Kit)/ 300 (Lab-size Kit)

**Intended Use:** The ImmunoComb<sup>®</sup> Antibody Test Kit is a diagnostic tool, which is suitable for monitoring herd health as well as working up clinical cases. Identifying a 'healthy' carrier-animal is an integral part of maintaining the herd free of leptosporosis. The kit can help rule out this infection in cows with various non-specific clinical signs.

**Diagnostic Method:** The ImmunoComb<sup>®</sup> test is based on solid phase “dot”-ELISA technology. Antigen is applied to test ‘spots’ on the solid phase, which is a comb-shaped plastic card (the Comb).

The samples to be tested are mixed with diluent in the first row of wells of a multi-chamber developing plate. The test spots on the Comb are then incubated with the samples in the developing plate. Specific IgG antibodies from the samples, if present, bind to the antigen at the test spots.

The Comb is then transferred to a well, where unbound antibodies are washed from the antigen spots. In the next step, the Comb is allowed to react with an anti-cow IgG Alkaline Phosphates conjugate, which will bind to antigen-antibody complexes at the test spots. After 2 more washes, the Comb is moved to the last well, where a color result develops via an enzymatic reaction. The intensity of the color result of test

spots corresponds directly to the antibody level in the test sample.

**Specificity: 90.6%**

**Sensitivity: 84.6%**

**Pathophysiology:** Various clinical conditions are recognized in cows with leptospiral infection, ranging from inapparent to severe disease. Signs may include fever, mastitis and poor quality milk, reproductive problems, icterus, hemoglobinuria, and death.

Following infection, leptospirees typically localize in the kidneys or reproductive system and are shed in the urine for extended periods. A cow that is shedding leptospirees may rapidly spread the disease through a herd that was previously free of infection. Abortions and stillbirths often result. Transmission typically occurs by direct contact with urine or urine-contaminated water or feed. The route of entry is through the skin or mucous membranes.

**Interpretation:** The level of antibodies (i.e., antibody titer) is determined according to the intensity of the test color result. Thus, no or a light grey color indicates no (negative) or low level of antibodies. Higher levels of antibodies are indicated by darker color results.

Negative and positive control serum samples are included in the ImmunoComb® Bovine Leptospira Antibody Test Kit. The negative control develops as a colorless (white) result, which is scored S0. Specimens with colorless (white) or faint color result (S0 – S2) are considered negative or low positive (suspicious), respectively. These results are typically seen in uninfected herds and sometimes in recently or inapparently infected cows. A retest in 2 weeks is recommended to check for sero-conversion.

The positive control develops a distinct grey color that should be scored S3. Specimens showing results equal to or darker than the positive control are considered positive and should be

scored S3-S4. A very dark grey color result (S5 or greater) indicates a high antibody titer.

**Applications:** (1) To establish cow serum IgG antibody titer for *Leptospira hardjo*, (2) To determine infection by *Leptospira hardjo* in cattle and (3) To evaluate antibody response to vaccination.

**Preferred Method of Diagnosis:** Serology, direct culture of leptospires, and histopathologic techniques on tissues have been used to confirm the diagnosis of leptospirosis. Serologic testing is the preferred method of detecting infection in individual cows as well as herds. The microscopic agglutination test (MAT) is the most commonly used assay. In sick cows, a single high antibody titer or a rising titer in acute paired serum samples is confirmative. Diagnostic titers may not be seen in some inapparently infected shedder animals. Vaccination with bacterins can stimulate the production of a low antibody titer, which typically declines after several weeks.

**References:**

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