ImmunoComb® Antibody Test Kit for Ovine Toxoplasma & Chlamydophila (Chlamydia)

Product Information

General information

Abortions in sheep and goats due to Toxoplasma and Chlamydophila (Chlamydia) are significant causes of economic losses in many parts of the world.

Chlamydiosis is a contagious disease in which infected sheep or goats transmit the organism to un-infected, susceptible animals. The classic symptoms of the disease are abortion, stillbirth, or premature delivery of weak lambs.

Aborting animals are subsequently immune, and will usually not abort with a Chlamydial infection again. These animals remain chronically infected, and transmit the organism to further susceptible sheep or goats, first through the placenta and vaginal discharges, later as chronic intestinal carriers.

On the contrary, Toxoplasmal abortion is not transmitted from sheep or goats to other animals. Instead, the source of infection is water or food, which has been contaminated with infectious Toxoplasma oocysts, excreted in cats' feaces. The disease is similar to Chlamydiosis, but early gestation abortion and embryonic absorption also occur, with "return to service" of animals, without evidence of having aborted.

The diagnosis of both conditions is based on the recognition of clinical and pathological changes, and on laboratory techniques.

In the lab, two clinical approaches are useful:

1. Identification of the organism.
2. Identification of specific antibodies in fetal fluids, lamb/kid precolostral blood or adult animal's blood.

The techniques for the identification of the organism are usually laborious and time consuming. In contrast, specific serologic techniques are faster and economically convenient.

Biogal's ImmunoComb ©Ovine Toxoplasma & Chlamydophila (Chlamydia) Antibody Test Kit is a user-friendly assay based on the dot ELISA principle for determining antibody levels to *Toxoplasma gondii and Chlamydophila sp. (Chlamydia sp.)* in sheep and goats serum or whole blood. The two diseases are tested simultaneously in each sample. The standard-size kit contains sufficient and ready-to-use material for testing up to 30 samples simultaneously. The lab-size kit offers 300 tests. The test can be performed in both the laboratory and the field. No special instruments are required. Results, which are read by eye, are obtained in about 40 minutes.

Intended Use:

The kit is designed to determine sheep serum IgG antibody titers for *Toxoplasma gondii and Chlamydophila sp.*

Main Applications:

1. To aid in the diagnosis of Toxoplasmal and/or Chlamydial abortions in sheep and goats.

2. To test sheep and goats in the course of Chlamydial sp. eradication campaigns.

3. To perform a periodical follow-up in Chlamydophila-free flocks.

4. To test ovine before shipping or before introducing sheep to Chlamydophila-free flocks.

NOTE: Toxoplasmosis and Chlamydiosis are "flock problems". Several animals should be sampled for a correct flock diagnosis.

Ovine *Toxoplasma gondii* - Interpretation of Results

"S" Score	Interpretation
"S" < 3	**Low titer** (I.F. < 1:28)
"S" = 3	Cut off titer (I.F. titer = 1:28)
"S" = 4-5	**Medium titer** (I.F. titer = 1:256-1:512) - May be recent exposure - Retest 2 weeks later to verify seroconversion
"S" = 6	**High titer** (I.F. titer = 1:1024) - Recent exposure
"S" > 6	**High titer** - Recent exposure. Proceed to 2nd dilution.

Ovine *Chlamydophila sp.* - Interpretation of Results

"S" Score	Interpretation
"S" < 2	**Undetectable - low level of antibody.** - These titers are not considered positive for *C. sp.*, but can appear in initial infection. - Retest 2 weeks later for seroconversion.
"S" = 3	Cut-off level
"S" = 4-5	**Positive - low/medium level of antibody.** - Possible exposure to *C. sp.* - Retest 2 weeks later for seroconversion.
"S" = 6	**Positive - high antibody level.** - Recent exposure to *C. sp.* - If "S" > 6, proceed to 2nd dilution for a correct determination of the titer.

NOTE: Positive results in fetal fluids or in precolostral blood of new-borns indicate active infection. Periodical screening of flocks enhances the detection of seroconversion early in the course of flock infection.

Anti Chlamydophila Antibodies Screening Test: A Comparative Study of the ImmunoComb® (I.C.) and Complement Fixation Test (C.F.)

Source	No. of samples	T.P.(1)	F.P.(2)	Sensitivity %	Specificity %
Sheep	154	48	10	100	91,4
Sheep	118	22	8	100	92
Goats	36	26	2	100	92
Mixed herd	91	21	2	100	90

(1) False Positive: Positive by I.C. when negative by C.F.
(2) False Negative: Negative by I.C. when positive by C.F.

Comparative Study of I.C. and C.F. Tests of Sheep Antibodies to *Chlamydophila sp.*

Group titer	1 0-1:32	2 1:64	3 1:128	4 1:256<	Total	Positive
No. C.F.	106	21	19	8	154	48
%	68.8	13.6	12.3	5.2	100.0	31.2
No. I.C.	96	26	24	8	154	58
%	62.3	16.9	15.6	5.2	100.0	37.7

Sensitivity % = 100.0
Specificity % = 91.4

References:

Anderson, I. E., Herring, A. J., Jones, G. E., Low, J. C. & Greig, A. (1995). Development and evaluation of an indirect ELISA to detect antibodies to abortion strains of Chlamydia psittaci in sheep sera. *Veterinary Microbiology*, **43**, 1-12.

Owen, M. R., Clarkson, M. J. & Trees, A. J. (1998). Acute phase Toxoplasma abortions in sheep. *The Veterinary Record*, **142**, 480-482.

Underwood, W. J. (1992). Toxoplasmosis infection in sheep. *The Compendium*, **14 (11)**, 1543-1548.

(PI OTC 2/12/04)