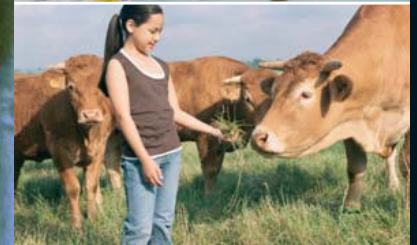


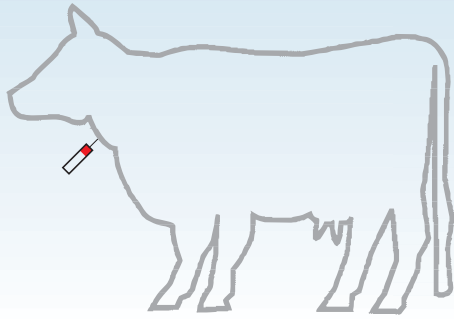
# Diagnosis of Bovine Tuberculosis. **BOVIGAM®**



## DIAGNOSTIC KIT FOR BOVINE TUBERCULOSIS IN CATTLE, SHEEP AND GOAT.

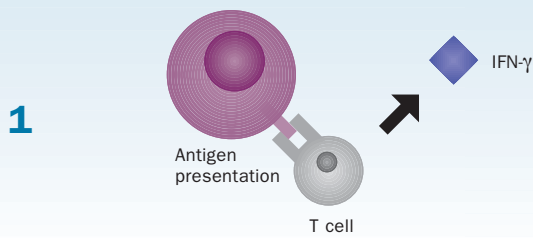
- \_ Fast diagnosis: improved herd management
- \_ Very high diagnostic sensitivity
- \_ Objective and highly reproducible
- \_ Established technology
- \_ Saves costs: only one vet visit needed

# Test for tuberculosis in cattle, sheep and goat. BOVIGAM®



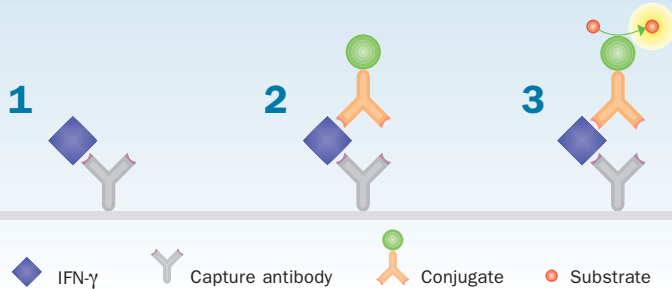
Heparinized blood sample

## In vitro whole blood culture



Plasma

## Gamma Interferon EIA



## BOVINE TUBERCULOSIS

Bovine tuberculosis is a major infectious disease among cattle, other domestic animals and certain wildlife populations. It results from infection with *Mycobacterium bovis* and can be transmitted either by the respiratory route or by ingestion.

Bovine tuberculosis is a chronic disease and it usually takes many months for clinical signs to develop. Thus, early infections are often asymptomatic, whereas in the later stages, symptoms include progressive emaciation, weakness, inappetence and enlargement of lymph nodes.

Bovine tuberculosis is a significant zoonosis that can spread to humans through aerosols and by drinking unpasteurized milk or dairy products from infected cows.

## BOVIGAM®

BOVIGAM® is a blood-based assay of cell mediated immunity. Animals infected with *Mycobacterium bovis* can be identified by measurement of the cytokine interferon gamma (IFN- $\gamma$ ).

BOVIGAM® is widely used as stand-alone or as an ancillary test to the tuberculin skin test. Various studies describe the effective use of BOVIGAM® with the skin test in tuberculosis eradication programs. The BOVIGAM® kit is used in many countries for the detection of *M. bovis* infected cattle, sheep and goat.

## TEST PROCEDURE

### STAGE 1 – WHOLE BLOOD CULTURE

The blood samples require overnight incubation with antigen (tuberculin purified protein derivatives, PPDs) to stimulate the lymphocytes to produce IFN- $\gamma$ . Lymphocytes from uninfected cattle do not produce IFN- $\gamma$  to tuberculin PPD antigens and hence IFN- $\gamma$  detection correlates with infection.

#### Step 1

Blood collected in heparin is mixed with specific antigens. After incubation at 37 °C overnight, the plasma supernatant from each blood aliquot is harvested for IFN- $\gamma$  estimation.

### STAGE 2 – BOVINE IFN- $\gamma$ ENZYME IMMUNOASSAY (EIA)

IFN- $\gamma$  in the plasma supernatants of each blood aliquot is estimated using a sandwich EIA.

#### Step 1

Diluted plasma samples react with antibodies to bovine IFN- $\gamma$  bound to a solid support. Unbound material is removed by washing after a suitable incubation time.

#### Step 2

Conjugate reacts with IFN- $\gamma$  bound to the antibody coated to a solid support. Unreacted conjugate is removed by washing after a suitable incubation time.

#### Step 3

Enzyme substrate is added. The rate of conversion of substrate is proportional to the amount of bound IFN- $\gamma$ . The reaction is terminated after a suitable time and the amount of colour development estimated spectrophotometrically.

## PRODUCT NUMBERS

- 63319/63309 (US) – kit with 2 plates, 192 wells
- 63310/63300 (US) – kit with 10 plates, 960 wells
- 63316/63306 (US) – kit with 30 plates, 2880 wells

## CONTACT INFORMATION

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