TB-Feron ELISA Plus

Gamma interferon assay for Mycobacterium bovis

Bovine tuberculosis is a chronic infectious disease caused by Mycobacterium bovis. The infection is often subclinical; even when present, clinical signs are not specifically distinctive of this disease and might include weakness, anorexia, emaciation, enlargement of lymphnodes, and cough. Routine screening can be time and labor intensive. BioNote TB-Feron ELISA Plus is an Sandwich Enzyme Linked Immunosorbent Assay for the qualitative detection of interferon gamma (IFN-γ). IFN-γ assay is based on the fact that an animal has blood lymphocytes which can memorize stimulating antigen immunologically when it is stimulated by exogenous or endogenous antigens. When an antigen is added to the blood from a primed animal within a tube, antigen specific effector/memory T cell are rapidly re-stimulated to produce IFN-γ, the cytokine, which is used as a specific marker in cell-mediated immune response (recall response). It is an alternative test method of intradermal skin test (PPD) because of its easy procedure and better sensitivity compared to the skin test.

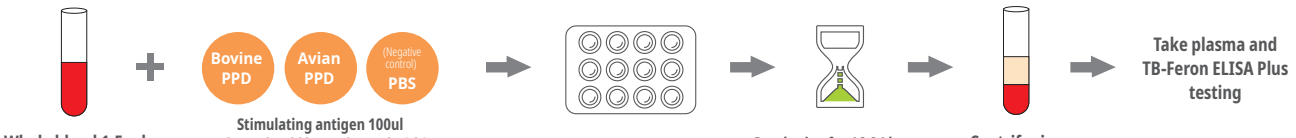
Indications

- Qualitative detection of interferon gamma in bovine plasma
- Diagnosis for government policies on slaughter
- First step for massive screening instead of PPD in a shorthanded situation
- Combine with ELISA or Rapid test in eradication system

Special Features

- Much more reliable than PPD skin test
- OIE standard for bTB diagnosis
- Good correlation with other IFN-γ assay
- Provide antigens for sensitization
- Specimen : Stimulated plasma
- Assay time : 90 minutes
- Concordance rate: 95.9% vs. "B" commercial ELISA

Sample preparation



Whole blood 1.5 ml

Stimulating antigen 100ul (Culture should be performed within 24 hours after blood collection)

Incubation for 16-24 hours

Centrifuging

Quick Procedure

1. Add 50 µl of prepared enzyme conjugate to each well
2. Add 50 µl of controls and each of prepared samples (Bovine PPD stimulated plasma, Avian PPD stimulated plasma, PBS stimulated plasma) to each well
3. Incubate the wells at 37°C for 1 hour
4. Wash the wells 5 times
5. Add 100 µl of substrate to each well
6. Incubate the wells for 30 minutes at room temperature(18~25°C) IN THE DARK.
7. Add 100 µl of stopping solution to each well.
8. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
9. Calculate the OD value (PPD B - PBS) and OD value (PPD B - PPD A)

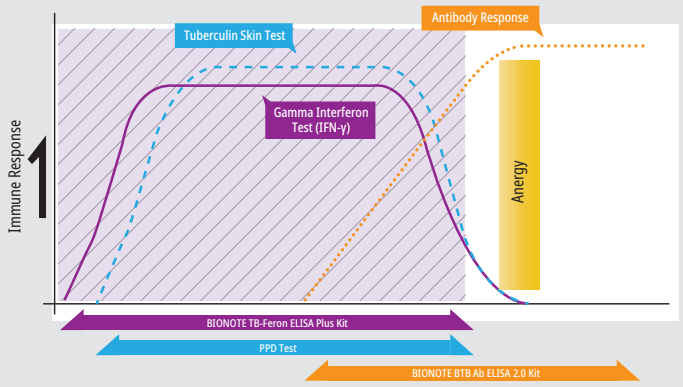
Field benefits of the IFN-y assay

- Animals retested as often as required (no interference with the immune status of animal)
- Double handing of cattle avoided
- Better sensitivity compared to skin test
- Reduced need for comparative intradermal test since both avian and bovine PPDs are used

Lab benefits of the IFN-y assay

- Results obtained within 24 hours
- A lab test is subject to quality control, standard procedures and objective interpretation
- Suitably adapted to epidemiological characteristics of the territory

Immune development of Bovine tuberculosis



BioNote TB-Feron ELISA Plus detects early to mid stage of bTB-affected cattle by cellular immunity measurement

Performance

1. Comparative study with other IFN test

		BioNote TB-Feron ELISA Plus		Total
		(-)	(+)	
"B" ELISA	(-)	32	1	33
	(+)	2	38	40
Total		34	39	73

Correlation	95.9%	70/73
Sensitivity	95%	38/40
Specificity	97%	32/33

2. Comparative study with previous TB feron ELISA

		BioNote TB-Feron ELISA Plus		Total
		(-)	(+)	
Previous TB feron ELISA	(-)	34	2	36
	(+)	0	37	37
Total		34	39	73

Correlation	97.3%	71/73
Sensitivity	100%	37/37
Specificity	94.4%	34/36

Ordering Information

Cat. No.	Description	Type	Pack ingsize
EG3802PO	TB-Feron ELISA Plus	Microplate	960 Wells/Kit (300 tests)