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MYCOPLASMA BOVIS ELISA KIT

For serum or milk (Bovine) - Double well -

BIO K 260/2 - BIO K 260/5

Mycoplasma bovis is associated with many cattle diseases, including arthritis, pneumonia in calves and young stock, mastitis, and genital infections. The infectious pneumonias that affect intensively-raised calves are responsible for sizable economic losses due to the mortality, treatment costs, and growth delays that they cause. These respiratory infections often involve multiple factors and are caused by interactions among viruses, mycoplasmas, and bacteria. Several species of Mycoplasma have been isolated from the respiratory tracts of calves. Some of them are most probably simple commensals or opportunistic species that merely worsen the lung damage caused by other agents. *Mycoplasma bovis* has been isolated from the lungs of calves with pneumonia. It is probably the most pathogenic species affecting the Bovidae after *Mycoplasma mycoides ssp. mycoides* biotype small colony. *Mycoplasma bovis* can induce the development of pneumonia in gnotobiotic calves. *Mycoplasma bovis* is frequently found in association with *Mannheimia haemolytica* in pneumonia in calves.

Use of the kit

The kit is designed to follow seroconversion on paired sera or to evaluate the serological status of serum or milk.

Reliable Results

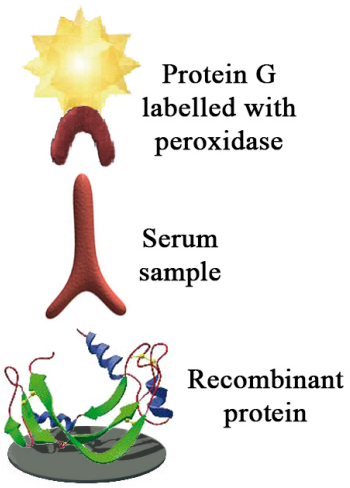
The use of recombinant protein produces excellent specificity and very reliable results.
Protein G used as conjugate recognise most of immunoglobulins isotypes

Ease-of-Use

Minimal hands-on-time
Room temperature incubation
Results available in 140 minutes for single or batch testing

EIA Procedure

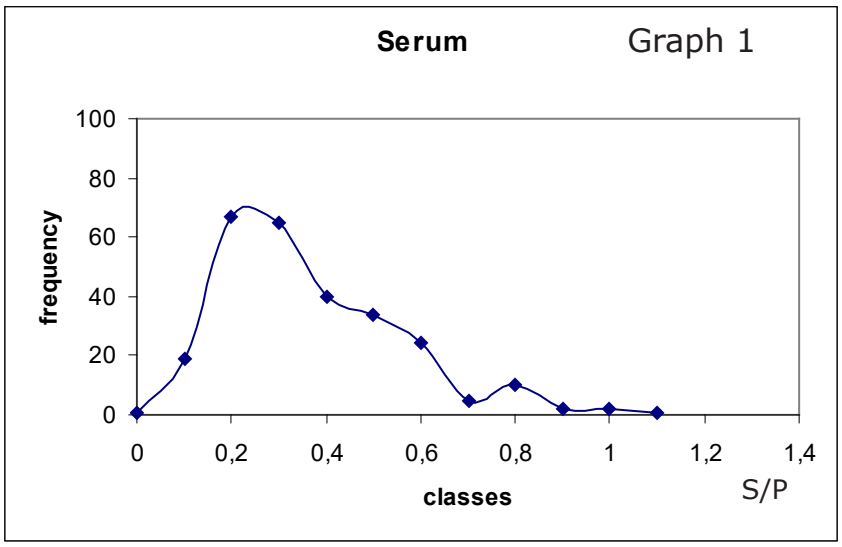
1- Microplate coated with recombinant protein.
2- Add samples, positive and negative controls.
Incubate 1 hour at 21°C+/-3°C.
Wash
3- Add conjugate.
Incubate 1 hour at 21°C+/-3°C.
Wash
4- Add chromogen (TMB).
Wait 10 minutes
Add stop solution. Read at 450 nm

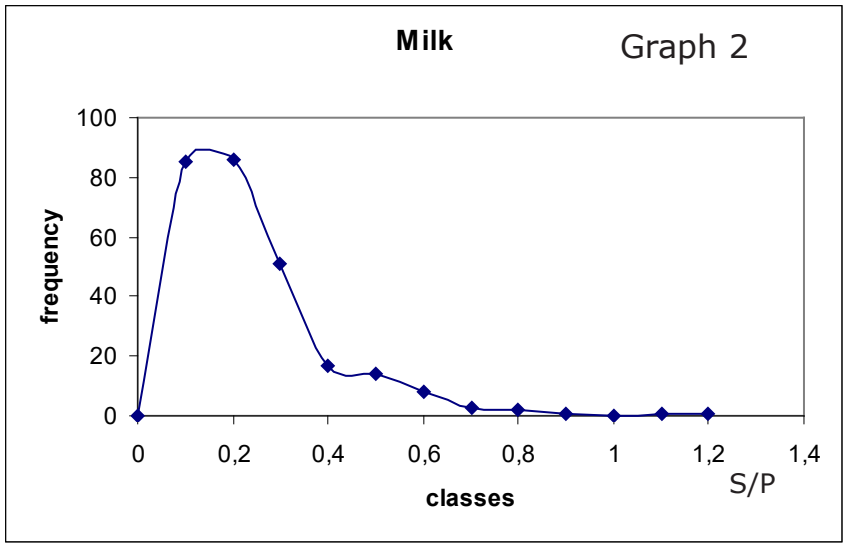


Bio-X Diagnostics - 38, Rue de la Calestienne (PAE) - 5580 Rochefort - Belgique
Tél : 0032(0)84.32.23.77 - Fax : 0032(0)84.31.52.63 - E-mail : a.ginter@biox.com

Example of results

270 serum and 270 milk samples taken from the same animals were tested using the BIO K 260 kit. These samples came from twenty-seven Belgian farms. Their optical density readings were divided by the optimal density reading for the kit's reference serum (S/P). Frequency histograms were then plotted for the blood sera (Graph 1) and milk samples (Graph 2).





These two graphs show that Belgian cows have a non-negligible residual level of specific antibody against *Mycoplasma bovis*. This is not at all surprising, given that the bacterium is a normal commensal in cattle's nasal passages. This can explain the presence of a population of animals for which the S/P ratio ranges from 0,4 to 0.7 Cows with an S/P ratio above 0.7 could doubtless be considered to belong to a population of animals that had mycoplasmal pneumonia. It is worthwhile noticing that the two histograms' profiles are fairly similar, even though they refer to two different groups of samples, i.e., blood sera and milk.

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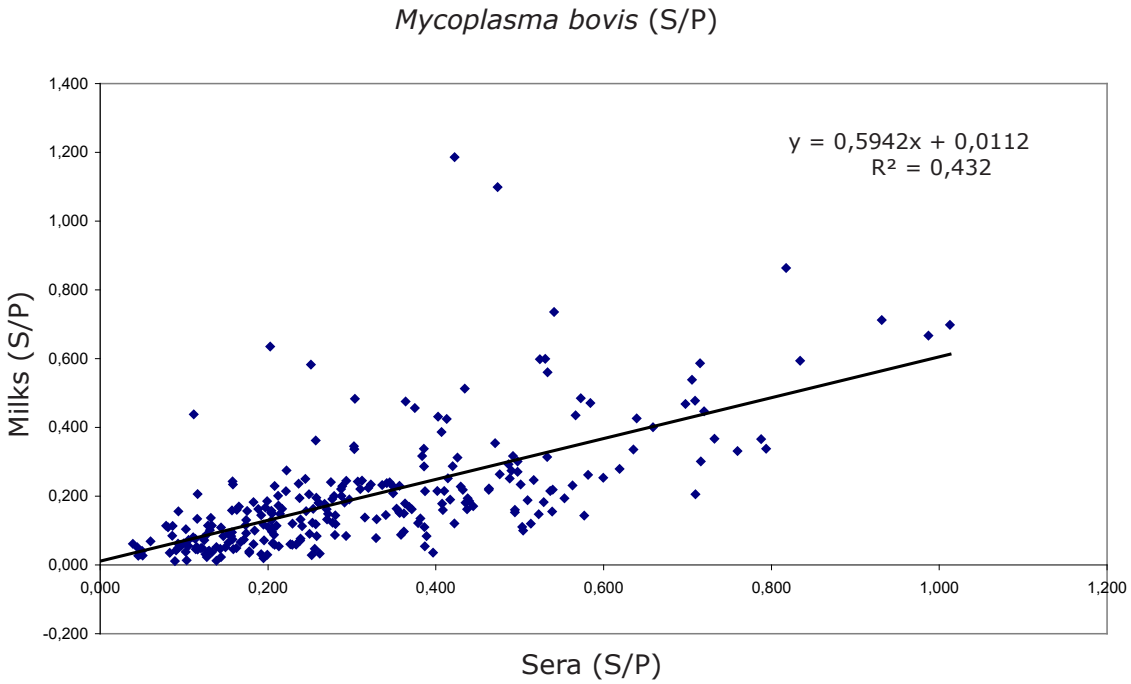
Correlation between sera and milks



Example of results

Five cows were inoculated experimentally with a *Mycoplasma bovis* culture. Serum samples were then taken from these animals at regular intervals and tested using the BIO K 260 kit. At the end of the trial the animals were sacrificed and their lungs removed to be tested for the bacterium's presence.

	Day of experimental infection										
		Infect									
Days	-3	0	3	5	7	10	14	17	21	28	35
Animal 1	0	0	0	0	0	0	0	0	++		
Animal 2	0	0	0	0	0	0	0	0	0		
Animal 3	0	0	0	0	0	+	+				
Animal 4	0	0	0	0	0	++	+	++	++	++	++
Animal 5	0	0	0	0	0	0	+	++	++	++	++

Mycoplasma bovis was isolated from the lungs of four of the five artificially infected animals. The bacterium was not isolated from the lungs of Subject 2. It is worthwhile noting that this subject was the only one that did not show seroconversion following the infection.

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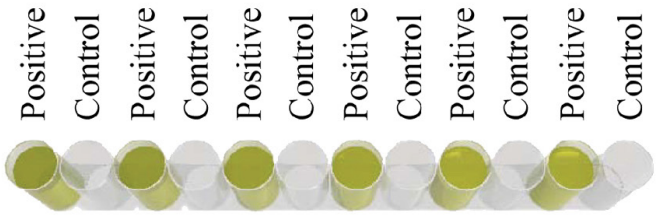
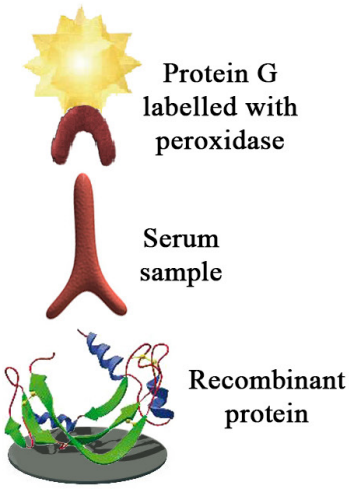
Composition of the kit

	BIO K 260/2	BIO K 260/5
Microplate	2 (96 tests)	5 (240 tests)
Washing solution	1 X 100 ml (20 X)	1 X 250 ml (20 X)
Dilution buffer	1 X 30 ml (5 X)	1 X 100 ml (5 X)
Conjugate	1 X 0.5 ml (50 X)	1 X 1.4 ml (50 X)
Positive serum	1 X 0.5 ml (1 X)	1 X 0.5 ml (1 X)
Negative serum	1 X 0.5 ml (1 X)	1 X 0.5 ml (1 X)
Single component TMB	1 X 25 ml (1 X)	1 X 55 ml (1 X)
Stopping solution	1 X 15 ml (1 X)	1 X 30 ml (1 X)

Stability : One year between +2°C and +8°C





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