



BOVINE PARAINFLUENZA 3 ELISA KIT

For serum or milk (Bovine) - Double well -
BIO K 239/2

Parainfluenza 3 was first isolated in the USA from the nasal mucus of cattle showing clinical signs of shipping fever. Its distribution in the cattle has been found to be worldwide. Most reports of bovine PI3 virus activity have been in groups of young cattle with respiratory diseases such as enzootic calf pneumonia and shipping fever. Bovine PI3 virus infections are not invariably associated with disease, and subclinical infections often occur. In European countries, PI3 infection mostly occurs during the months from October to March. PI3 virus infection may be accompanied by concurrent infection of the respiratory tract by other viruses such as respiratory syncytial virus, adenovirus or BVDV. In outbreaks of bovine respiratory disease, it is not possible to diagnose PI3 virus infection on clinical grounds alone. To establish a diagnosis, it is necessary to take paired sera from infected animals or to submit animals from the outbreak for necropsy to facilitate immunocytochemical examinations of the lower respiratory tract. PI3 virus infection in an outbreak of respiratory disease can be detected by the demonstration of a rise in serum antibody titer to the virus between acute and convalescent phase serum samples (seroconversion).

Use of the kit

The kit may be used to follow seroconversions in paired sera or milk samples.

Reliable Results

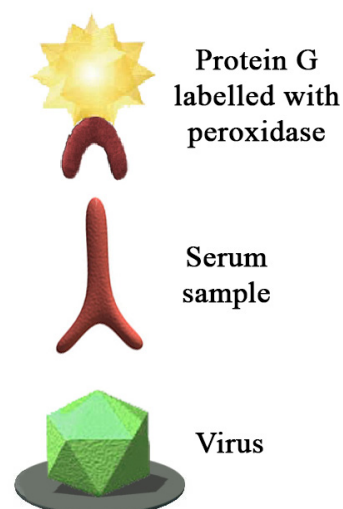
The use of highly purified PI3 virus produces excellent specificity and very reliable results. Protein G used as conjugate recognise most of immunoglobulins isotypes.

Ease-of-Use

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

EIA Procedure

- 1- Purified and inactivated virus is coated on micro-plate
- 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 TMB.
Wait 10 minutes
Add stop solution. Read at 450 nm

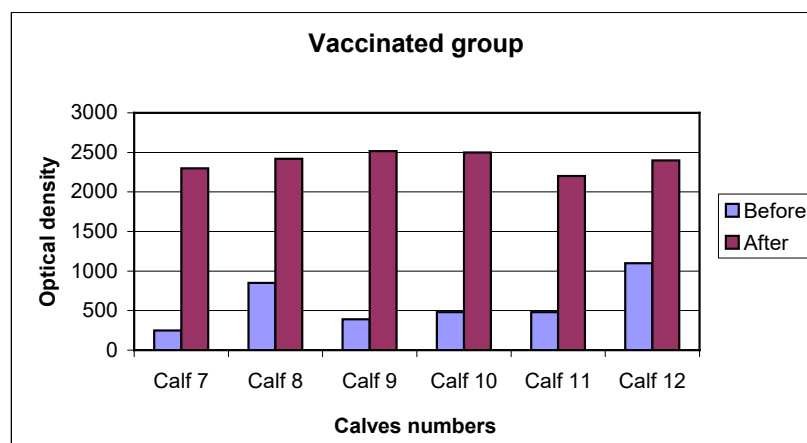
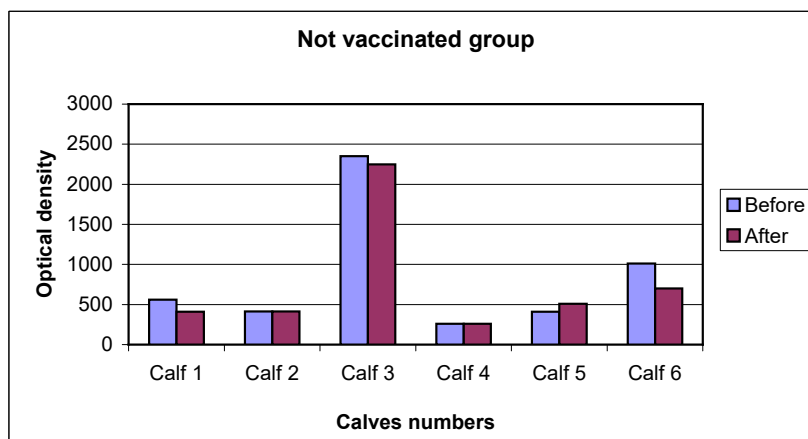




Example of results

Graph n° 1

A batch of 12 calves of approximately 6 months was divided into two groups. The first group was vaccinated with an inactivated commercial vaccine. The second group was not vaccinated. Before vaccination, the 12 calves were blood sampled. After the second vaccination, the 12 calves underwent a blood sampling. The paired sera were tested with the Bio K 239 kit of Bio-X Diagnostics.



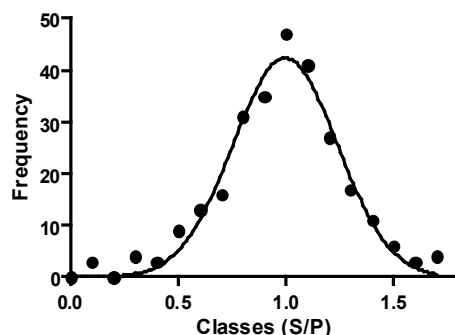


Kit performance

270 serum were tested using the BIO K 239 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 (E/P). Frequency histograms were then plotted for the blood sera (Graph 2).

Graph n° 2

PI3 DC BIO K 239 (serum)

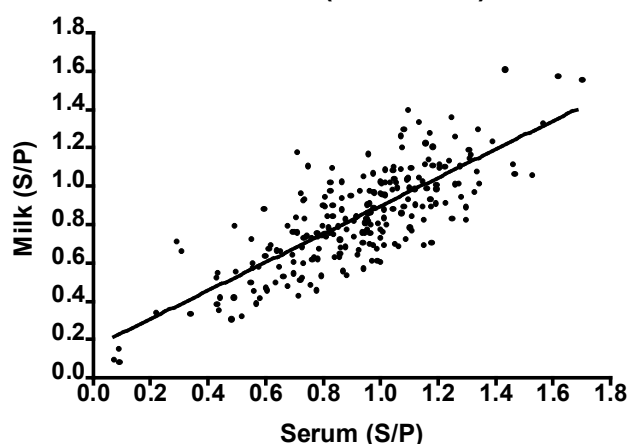


As one can see, it is difficult to set a cut-off as the bar graph does not show the existence of a clear separation between positive and negative populations of animals. The PI3 virus is ubiquitous in Belgium.

270 serum and 270 milk samples taken from the same animals were tested using the BIO K 239 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 (E/P). Graph 3 shows the correlation between the blood sera's and the milk samples' serotest results.

Graph n° 3

PI3 DC (BIO K 239)





Kit performance

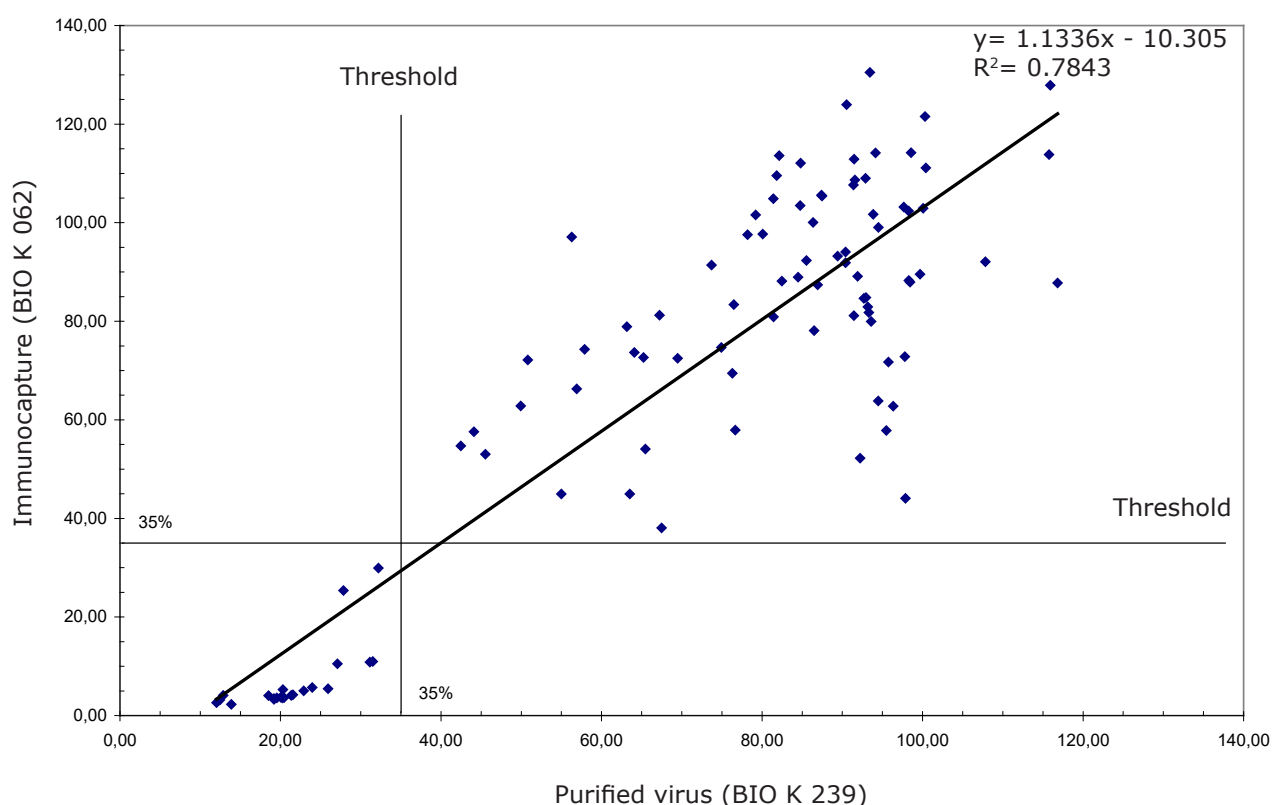
The performance of the BIO K 239 kit (direct coating) was compared with that of an immunocapture ELISA test on 100 blood serum samples.

The results of these comparisons are shown in Graph 4.

100% corresponds to the value obtained with the kit's positive reference serum.

Graph n° 4

PI3: Purified virus - Immunocapture



Relative sensitivity: 100 %

Relative specificity: 100 %

Concordance between the two tests: Kappa = 1

The concordance between the two tests is considered excellent.

Landis et Koch, The measurement of observer agreement for categorical data

Biometrics 1977, 33, 159-74





Composition of the kit

BIO K 239 : BOVINE PARAINFLUENZA 3 ELISA KIT

	BIO K 239/2
Microplate	2 (96 tests)
Washing solution	1 X 100 ml (20 X)
Dilution buffer	1 X 30 ml (5 X)
Conjugate	1 X 0.5 ml (50 X)
Positive serum	1 X 0.5 ml (1 X)
Negative serum	1 X 0.5 ml (1 X)
Single component TMB	1 X 25 ml (1 X)
Stopping solution	1 X 15 ml (1 X)

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

