



Neospora caninum ELISA

Neospora caninum, an apicomplexan protozoan parasite, affects mostly cattle where it may result in abortions. These may take the form of sporadic or low-level endemic abortion, or epidemic “abortion storms” which can affect a large proportion of at-risk (i.e. in-calf) cows and cause large economic losses. Some work suggests sheep may be affected, but the likely seroprevalance is low. The ELISA can be used to investigate neospora exposure in sheep flocks.

The ELISA test is reported as a positive or negative result. The ELISA and IFAT tests correlate well and a positive ELISA means that the IFAT titre is >1:600. Neospora serology is preferred in epidemiological investigations or where no foetal tissue is available. For the initial abortion investigation on a farm, foetal PCR and histopathology of a range of tissues is recommended.

The ELISA is most suitable for herd or flock investigations, and (as titres persist longer) for the detection of chronically infected animals.

To demonstrate an association between abortions/reproductive failure and *N. caninum* infection, a blood sample should be taken from 10 empty cows (or ewes), and a control group of 10 pregnant cows (ewes). All should be tested by ELISA for *N. caninum* antibodies. To establish if there is a correlation between the results and pregnancy status calculate the relative risk $([a / (a + b)] / [c / (c + d)])$; where *a* is ELISA +ve and aborted, *b* is ELISA +ve but not aborted, *c* is ELISA -ve and aborted and *d* is ELISA -ve but not aborted). A relative risk greater than 1 indicates an association. The ELISA can also be used simply if you want to determine if cattle have been infected or not. Testing is only undertaken on 10 or more samples, and samples can not be pooled.

For investigating the neospora status of *individual* animals, especially related to abortion, use the *N. caninum* IFAT.



Species:
Bovine, ovine



Specimen:
Serum
(minimum 2 ml)



Container:
Plain or gel tube



Collection Protocol:
Standard
venepuncture