Validation of a Monoclonal Antibody Capture ELISA to Detect Antibodies to *Leptospira borgpetersenii* serovar hardjo

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Introduction

Leptospires belonging to the serovar hardjo are the major cause of bovine leptospirosis. This infection is responsible for considerable financial loss in the dairy industry, and additionally, is an occupational zoonosis of those who work with cattle. Control schemes are being investigated in a number of countries, and thus, the availability of suitable methods to identify carrier animals, susceptible animals and immune cattle may be crucial to the successful development of such control systems. Indirect enzyme-linked immunosorbent assays (ELISA) have been shown to be more sensitive than the MAT for detecting leptospiral antibodies. However they have suffered from a number of disadvantages, including a lack of specificity and antibody levels detected at a level that does not reflect the immune status of an animal.

Linnodee Animal Care has developed a monoclonal antibody capture ELISA, the Linnodee Lepto Kit (LLK), that detects an antibody response to a lipopolysaccharide (LPS) outer envelope epitope common to both *Leptospira borgpetersenii* serovar hardjo-bovis (HB) and *Leptospira interrogans* serovar hardjo-prajitno (HP) in either sera or milk (bulk tank or individual animals). The monoclonal antibodies to the epitope used in the test have been shown to passively protect hamsters against HB infection, and to have high growth inhibition and leptospiracidal assay titres to HB [1].

Materials and Method

The LLK was compared to the MAT (sera) and a commercially available ELISA (sera and milk) using cattle of known microbiological status.

Results and Conclusion

In this paper we will outline the validation of this ELISA and demonstrate its potential importance in the control of bovine leptospirosis.

Reference

1. Yan *et al*: *Vet Microbiol* 69: 173-187, 1999.