

# Indirect ELISA kit for Sheep and Goat Brucellosis

- **Problem Description:**

Brucellosis in Indian livestock is responsible for a median loss of US \$ 3.4 billion/annum (INR 22554 crores) infecting multiple livestock species including sheep and goats. The international health agencies recommend ELISA tests with a high degree of sensitivity and specificity for surveillance of brucellosis. Large number of institutions in the country were procuring OIE recommended imported ELISA kits for surveillance/ diagnosis of small ruminant brucellosis till the year 2010. Dependence on imported kits and increased cost of testing with imported kits had direct impact on national exchequer. Hence ELISA test kits were essential in the country.

- **Solution Description:**

Till 2007-2008, the iELISA kit for brucellosis screening in small ruminants was not available in the country and hence initiative was taken to develop the iELISA kit and patent was obtained (Patent No No.250709). The kit is based on the smooth lipopolysaccharide antigen (instead of crude antigen) which helps to detect antibodies against smooth *Brucella* species such as *Brucella abortus*, *B. melitensis* and *B. suis* with relative diagnostic sensitivity and specificity of 96% and 99%, respectively. Using the iELISA kit, 43609 serum samples of small ruminants were tested in the institute and documented high seroprevalence of 11% in sheep and comparatively less in goats 4.5%. Presently 93 kits were sold through the institute and so far by using the kit, probably 50220 serum samples have been screened by various institutions.

