

'Indigenous' and 'Ethanol Vortex' ELISA kits for diagnosis of *Mycobacterium avium* subsp. *paratuberculosis* infection in cattle: Is there a 'globally relevant kit' in the 'Reverse Ice-burg' environment?

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Highly versatile and robust 'Indigenous ELISA kit' for the diagnosis of *Mycobacterium avium* subsp. *paratuberculosis* infection in cattle herds was compared with 'Ethanol Vortex (EV) ELISA kit' of USA. Of 160 (118 vaccinated and 42 non-vaccinated) cattle screened, 129 and 35 were positive in 'Indigenous' and 'Ethanol Vortex' ELISA kits, respectively. 'I-ELISA', using 'semi-purified protoplasmic antigen' from native highly prevalent biotype ('Indian Bison type') of MAP of goat origin, was highly sensitive (91.4%) as compared to the 'EV-ELISA'. 'I-ELISA kit using whole cell sonicate from native 'S 5' ('Indian Bison type') strain of MAP as 'antigen source' was significantly superior than EV-ELISA kit using surface antigens from 'Linda' strain ('cattle type') of cattle origin in USA. Therefore, 'i-ELISA kit' may be recommended for the screening of domestic cattle herds against MAP infection in India. The present study has demonstrated that in the diagnosis of chronic infections and diseases, such as Johne's disease, 'Indigenous kits' are significantly superior to kits made in other countries, EV-ELISA, in the present case, particularly screening of native cattle herds endemically infected with MAP.

Keywords: Cattle, i-ELISA kit, EV-ELISA kit, Indian Bison type strain, Johne's disease, 'Linda' strain, MAP infection

Mycobacterium avium subsp. *paratuberculosis* (MAP)