ICAR-NIVEDI, Bengaluru received Indian patent for an invention entitled
"RECOMBINANT VSG AND MONOCLONAL ANTIBODY BASED COMPETITIVE
INHIBITION ENZYME LINKED IMMUNOSORBANT ASSAY FOR DETECTION OF
ANTIBODIES AGAINST TRYPANOSOMA EVANSI"

Trypanosoma evansi, is a haemoflagellated parasite, which causes a fatal wasting disease known as Surra. The parasite can affect a broad range of hosts and cause heavy economic loss. In South east Asia cattle and buffaloes are the most common mammalian hosts for surra. The clinical symptoms of the disease are anemia, recurrent fever, muscular weakness, oedema, loss of appetite and abortion. The animals after recovery of the disease exhibit low levels of fluctuating parasites for years and thus serve as carriers for the disease. Hence, the detection of carrier status and treatment is very significant in controlling the disease. The conventional parasitological techniques, which are most commonly practiced at field level can satisfactorily diagnose the clinical case of the infection but fail to do so when parasitaemia is very low in carrier stage during latent or chronic infection. In this regard, there is a need to develop new sensitive and specific diagnostic techniques.
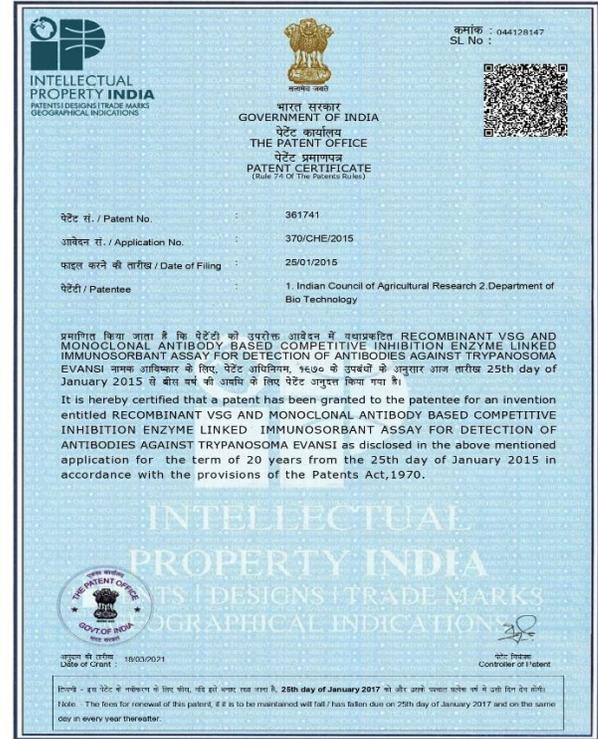
VSG (variable surface glycoprotein) is the primary and major immunogen of T. evansi in eliciting the antibody response in host and is uniformly distributed over the entire surface of trypanosomes. In the present work, recombinant variable surface glycoprotein (VSG) is expressed a eukaryotic host - Pichia pastoris, and thereafter CI-ELISA is developed using monoclonal antibody against rVSG. The sensitivity and specificity of the assay is more than 90%. It is expected that this assay will help surveillance and control programme of surra in the country. A team of inventors consisting of P.P. Sengupta, L. Milesh, V. Balamurugan, and H. Rahman, from ICAR-NIVEDI, developed this assay. The development of this indigenous diagnostic assay is a step towards Make in India and ATMANIRBHAR BHARAT.