

DBT-NIAB developing aptamer-based diagnostics kits to detect novel coronavirus

The Department of Biotechnology's National Institute of Animal Biotechnology (DBT-NIAB), Hyderabad, has initiated work to develop aptamers that can bind to the genomic RNA of novel corona virus. These aptamers will be used for development of a quick and affordable point-of-care lateral flow based device to detect the presence of virus in clinical samples. Monoclonal antibodies against specific portion of spike proteins will be generated and used for a rapid and affordable Lateral flow device. The aim is to develop an ultrasensitive portable electrochemical sensor for detection of SARS-CoV-2 surface antigen/ antibody within 1-2 minutes.

In addition to this, the Institute has initiated a research project to express the spike proteins of Novel Corona virus on the surface of mammalian cell lines, which will act as a safe and non-hazardous surrogate for viral surface contours. These viral surrogates will then be used to study the interaction of the expressed spike protein with the ACE-2 receptor bearing cultured Lung cells. Prevention of this interaction (cell-cell binding) may be used as a tool to screen new molecules or antibodies for therapeutic purposes.

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