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New visual detection test of SARS-CoV-2 to identify infection at early stage

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The presence of band colour at test and control line indicates a positive result whereas a single line in control indicates a negative result

A team of reserachers from National Institute of Animal Biotechnology (NIAB) and Gandhi Medical College, in Hyderabad, has developed a rapid and robust platform for early and on-field detection of SARS-CoV-2 virus.

The developed lateral flow immunoassay (LFIA) strips can be useful as a portable, point of care device (PoC) for on-site detection of SARS-CoV-2 particularly at home or even in rural areas. Moreover, the cost of LFIA strips is much less as compared to standard RT-PCR test making it a more economical option for people who cannot afford the RT-PCR test.

The LFIA for the detection of Receptor Binding Domain (RBD) of SARS-CoV-2 could provide an efficient substitute for RT-PCR tests. It can detect that RBD antigen of the SARS-CoV-2 at an early stage of infection with a visual line of detection (LOD).

A smartphone app (Color grab) has been used for the qualitative analysis of the test strip. The developed LFIA working on the principle of antigen-antibody interaction holds the potential to be used for detection of SARS-CoV-2 without any requirement of skilled personnel and subsequently reduce the spread of the virus.