Ministry of Education

Minister of State for Education Shri Sanjay Dhotre launches the Rapid Antigen Test Kit for COVID-19 developed by IIT Delhi

Posted On: 25 JUN 2021 2:59PM by PIB Delhi

Minister of State for Education Shri Sanjay Dhotre launched a Rapid Antigen Test kit for COVID-19 developed by IIT Delhi today. The Rapid Antigen Test kit has been developed by the IIT Delhi researchers led by Dr. Harpal Singh, professor at the Institute's Centre for Biomedical Engineering.

Congratulating the IIT Delhi researchers and their manufacturing partners on the launch of the test kit, MoS, Shri Sanjay Dhotre said, "I am confident that this technology will revolutionize the Covid test availability in the country. I am glad to know that the kit has been developed entirely using the internal resources at IIT Delhi."

Shri Dhotre also complimented the researchers Prof. Harpal Singh and Dr. Dinesh Kumar and thanked IIT Delhi for helping the nation in becoming Atmanirbhar in fighting the pandemic using indigenously developed technologies and made in India products.

Shri Dhotre commended the efforts of premier institutions during COVID-19 by promoting the development of test kits, ventilators. He lauded the efforts of IIT Delhi for promoting research and development in the field of technology. He informed that Prime Minister Narendra Modi led government is focussed on Atmanirbhar Bharat through research, development, and innovations. The focus on research in National Education Policy, National Research Foundation and initiatives like PM Research Fellowship will help further to improve quality of research in our country. Technology plays important role in wealth creation. IITs being premier technology institutions play major role here.

He further asked the premier institutes to make the research centres and innovation parks in their campuses more vibrant and activate industry academia linkages. For popularising science technology among general citizens, he asked the scientists and technologist to write more on these issues in print and other media, to deliver lectures for general public, and to venture into the field of popular science fiction and non-fiction writing. Mechanisms to be developed for regular interaction of IIT professors and students with the school students in the vicinity, and vice versa, in order to inspire the school students to venture in the field of science and technology.

Speaking on this occasion, Prof. V Ramgopal Rao, Director, IIT Delhi said, “IIT Delhi had in July 2020 launched a Rs. 399 RT PCR kit, which helped bring the RTPCR test costs to the current level. Using the technologies developed in the Institute, over 8 Million PPE kits have been supplied so far. With the launch of this Antigen based rapid test kit, we hope to make the diagnostics easy and affordable for the rural areas.”

Prof. Harpal Singh mentioned the salient features of the technology, as certified by the ICMR.

1. This kit is used for in vitro qualitative detection of SARS-CoV-2 antigen.

2. The SARS-CoV-2 Ag Rapid Test is a colloidal gold enhanced double antibody sandwich immunoassay for the qualitative determination of SARS-CoV-2 antigen in human nasal swabs, throat swabs and deep sputum samples. It is suitable for general population screening and diagnosis of COVID-19.

3. The invention is directed towards an in vitro diagnostic kit for qualitative detection of SARS-CoV-2 coronavirus antigens in nasopharyngeal swab, using the rapid immune chromatographic method.

4. The identification is based on the monoclonal antibodies specific for the Coronavirus antigen.

5. The results obtained are qualitative based and can be inferred visually with naked eye.

6. A SARS-CoV-2 positive specimen produces a distinct color band in the test region, formed by the specific antibody antigen colored conjugate complex"(Au-SARS-CoV-2-Ab)-(SARS-CoV-2-Ag)-(SARS-CoV-2-Ab)". Absence of this colored band in the test region suggests a negative result.

7. A colored band always appears in the control region serving as procedural control regardless of the specimen contains SARS-CoV-2 or not.

8. Test is found to be suitable for early Ct values (Ct values between 14 to 32) with a Sensitivity- 90%, Specificity- 100% and Accuracy- 98.99%, and certified by the ICMR. These are the one of the best available values for any such test kits.

9. The technology and its manufacturing are 100% indigenous.

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