



drishti

Agappe Chitra Magna Kit for Covid-19

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Why in News

The **Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST)** in collaboration with **Agappe Diagnostics Ltd.** has commercially launched the Agappe Chitra Magna Kit for detection of **Covid-19**.

SCTIMST is an **Institute of National Importance** under the Department of Science and Technology (DST).

Key Points

- Agappe Chitra Magna is a **magnetic nanoparticle-based RiboNucleic Acid (RNA) extraction kit**.
- **Working:**
 - It isolates RNA from the patient sample using magnetic nanoparticles.
 - **SARS-COV-2**, the causative virus of Covid-19 pandemic, is an **RNA virus**- a long single-stranded polymeric substance present in all living cells that carries the genetic information of the organism necessary for life.
 - One of the critical steps in **detecting this virus is by confirming the presence of the RNA** of the virus in the sample taken from the throat or nose.
 - The magnetic nanoparticle beads bind to the viral RNA and, when exposed to a magnetic field, give a highly purified and concentrated RNA.
 - As the sensitivity of the detection method is dependent on getting an adequate quantity of viral RNA, this innovation enhances the chances of identifying positive cases.
- **Application:**

The kit can be used for RNA extraction for **RT-LAMP**, **RT-PCR** and other isothermal and Polymerase Chain Reaction (PCR) based protocols for the detection of SARS-COV-2.

- **Significance:**

The indigenously developed and manufactured RNA extraction kit **would reduce the nation's dependence on imported kits** which are expensive and thus will bring down the cost of Covid-19 testing.

Source: PIB