



SalivaDirect: Covid-19 Test

Why in News

The **USA Food and Drug Administration (FDA)** has authorised the emergency **use of a new saliva-based laboratory diagnostic test for Covid-19 - 'SalivaDirect'**.

Key Points

▪ About SalivaDirect:

- It is a new **rapid diagnostic test** for novel coronavirus infection that **uses saliva samples**. It is **simpler, less expensive and less invasive than the traditional method** for such testing known as **nasopharyngeal (NP) swabbing**.
 - NP swab is used to **detect upper respiratory tract infections**, such as whooping cough and Covid-19. It is used in **Polymerase Chain Reaction (PCR) and antigen tests**.
 - In this test, secretions from the back of the nose and upper throat are collected using a swab.
 - The secretions are sent to a laboratory where they are grown in order to make it easier to identify which viruses, bacteria or fungi are present.
- Collecting and testing saliva samples include **three steps**:
 - Saliva is collected without preservative buffers.
 - It is first **treated with proteinase K** followed by a heat inactivation step (to remove contamination).
 - It is then directly used as an input in the dualplex **RT-qPCR mechanism**.
 - In Quantitative Reverse Transcription Polymerase Chain Reaction (RT-qPCR) mechanism, the **viral RNA** is quantified to detect the novel coronavirus.
 - **Coronavirus is made up of Ribonucleic Acid (RNA)**.

▪ Benefits:

- **High Sensitivity:** The sensitivity is about **93%**. SalivaDirect test can detect when the number of virus copies in the saliva sample is as low as 6-12 copies per microlitre.
- **Non-Invasive:** It uses saliva, instead of relying on nasopharyngeal (nasal) specimens, which makes the sample collection non-invasive.
- **Protects Healthcare Workers:** Collecting the sample from the nasopharyngeal region requires a swab to be inserted into the back of the nostrils, which very often causes irritation leading to sneezing and coughing, thus exposing healthcare workers from getting exposed to the virus.
- **Large-scale Testing:**
 - Saliva samples are a **viable alternative to nasopharyngeal swabs** and could allow for at-home, self-administered sample collection for accurate large-scale SARS-CoV-2 testing.
 - Further, collecting nasopharyngeal samples can be uncomfortable to people,

discouraging them from getting tested. The saliva test is likely to increase testing compliance.

[Source: TH](#)

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