

Johnson and Johnson COVID vaccine

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In news

Recently, USA's Food and Drug Administration (FDA) on Saturday authorised Johnson & Johnson's single-shot Covid-19 vaccine for emergency use authorization

About Johnson and Johnson(J&J) COVID vaccine

- **Developed by:** The J&J vaccine, known as JNJ-78436735 or Ad26.COV2.S., has been **developed by Janssen Pharmaceutica, a Belgium-based division of the company, in collaboration with Beth Israel Deaconess Medical Center**, a teaching hospital of Harvard Medical School in Boston.
- Janssen Biotech Inc is a Janssen Pharmaceutical Company of Johnson & Johnson
- **Type of Virus for manufacture:** The Janssen COVID-19 Vaccine is manufactured using a specific type of virus called adenovirus type 26 (Ad26). The vaccine uses Ad26 to deliver a piece of the DNA, or genetic material, that is used to make the distinctive "spike" protein of the SARS-CoV-2 virus.
- The J&J vaccine is based on the SARS-CoV-2 virus's genetic instructions for building the spike protein that it uses to enter human cells.

How does J&J vaccine is different from other vaccines?

- But unlike the Pfizer-BioNTech and Moderna vaccines, which store the instructions in single-stranded RNA, the **J&J vaccine uses double-stranded DNA.**
- Also, it is adenovirus-based, which is a more rugged type than the mRNA vaccines from Pfizer and Moderna.

- DNA is not as fragile as RNA, and the adenovirus's tough protein coat helps protect the genetic material inside. **As a result, the J&J vaccine can be refrigerated for up to three months at 2-8°C.**
- In other words, the vaccine is set to be a cost-effective alternative to the Pfizer and Moderna vaccines, and can be stored in a refrigerator instead of a freezer.
- Further, unlike Pfizer, Moderna, Oxford-AstraZeneca (a variant of which is being manufactured under licence as Covishield by Serum Institute of India) and even the Bharat Biotech (Covaxin) vaccine, the J&J vaccine is given as a single dose.