

ZyCoV-D vaccine

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In news- Ahmedabad-based Zydus Cadila on Friday received emergency use authorization from the drug controller for its **three-dose, intradermal, ZyCoV-D Covid-19 vaccine.**

About ZyCoV-D vaccine-

- It is the **world's first plasmid DNA-based shot and India's indigenously developed DNA-based vaccine.**
- It uses a section of genetic material from the virus that gives instructions as either DNA or RNA to make the specific protein that the immune system recognises and responds to.
- It is India's **sixth approved Covid shot after Covishield, Covaxin, Sputnik V, Moderna and Johnson and Johnson.**
- It has been developed in partnership with the Department of Biotechnology and is the **second home-grown shot to get emergency authorisation in India after Bharat Biotech's Covaxin.**
- It has a **needle-free application system** manufactured by Pharma Jet in place to administer the shots.
- It will be using a specific model called the '**Tropis**', which received regulatory approval in Europe in 2017.
- On July 1, Zydus Cadila had applied for approval for emergency use and conducted the largest clinical trial for its vaccine, including on population in the **age group of 12-18.**
- This was also the **first time that any Covid-19 vaccine was tested in the adolescent population.**
- **Primary efficacy of 66.6 percent has been attained** for symptomatic RT-PCR positive cases in the interim analysis.
- Both the Phase I/II and Phase III clinical trials have been monitored by an independent Data Safety Monitoring

Board (DSMB).

What is the Tropis needle-free system?

- Tropis delivers vaccines intradermally, technology that propels liquid at high pressure to deliver vaccines through the skin **without utilising needles.**
- There are **three components:** the injector, the needle-free syringe, and a filling adapter.
- The vaccine is administered using a simple four-step process: prepare the injector; fill the syringe; load the injector, and give the injection at the Deltoid region.
- A needle-free injector is said to be more accurate and requires little training.
- It reduces the infection-associated anxiety for the beneficiary and the vaccinator.
- It also does not give rise to any needlestick injuries to the health care workers.

Each **needle-free syringe is sterile, auto disabling, and cannot be reused.**