

## Technology Development Board enters into an agreement with Panacea Biotech

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Technology Development Board which is a part of department of science and technology enters into an agreement with Panacea Biotech Pvt Ltd. for the late stage development including Phase II & III of the attenuated dengue vaccine.

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Dengue is a mosquito-borne flavivirus disease that has spread to most tropical and many subtropical areas. Caused by four closely related viruses, the Dengue viruses 1-4, there are no specific dengue therapeutics; hence prevention limited to vector control measures is the most adopted method. A dengue vaccine would therefore represent a major advance in the control of the disease.

There are many dengue vaccines under development, including live attenuated virus vaccines, live chimeric virus vaccines, inactivated virus vaccines, live recombinant, DNA, and subunit vaccines.

Scientists at National Institutes of Health (NIH), USA developed the attenuated strains of Dengue viruses that were tested in non-human primates for their safety and immunogenicity properties. The studies show that the attenuated viruses are able to replicate and trigger the generation of antibody response against each serotype, a primary requirement of a successful Dengue Vaccine. The vaccine strains did not have any adverse reactions and a challenge with respective wild type virus led to neutralization of the wild type viruses in immunized non-human primates.

As part of technology transfer, NIH USA has supplied fully characterized Virus seeds of the four Dengue Vaccine candidate viruses to PBL. Working further on this, PBL developed in-house process to produce the vaccine virus Drug Substance (DS); analytical methods to qualify the vaccine; and lyophilized formulation for longer stability.

PBL submitted a loan application to the TDB for setting up of a project envisaging “Development and commercialization of Dengue Tetravalent Vaccine (Live Attenuated, Recombinant, Lyophilized)” based on the technology licensed from NIH and perfected indigenously through in-house R&D.