



Panacea Biotec
Innovation in support of life

15th November, 2017

The Manager, Listing Department
National Stock Exchange of India Ltd.
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NSE Symbol: PANACEABIO

BSE Limited
Phiroze Jeejeebhoy Towers,
Dalal Street,
Mumbai – 400 001
Fax No.:022-22721919, 3121
BSE Scrip Code: 531349

Re.: Press Release - Panacea Biotec announces signing of agreement with Technology Development Board (TDB), Govt. of India, regarding financial assistance for development & commercialization of Dengue Tetravalent Vaccine

Dear Sir,

The Company is delighted to announce the signing of the agreement with Technology Development Board (TDB), Govt. of India for providing the financial assistance of Rs.28.99 Crores for the “Development and commercialization of Dengue Tetravalent Vaccine (Live Attenuated, Recombinant, Lyophilized)”.

Dengue is a mosquito-borne flavivirus disease that has spread to most tropical and subtropical areas globally including India. The disease is caused by four immunologically defined serotypes of Dengue virus. Currently, there are no specific dengue therapeutic options available and the treatment is primarily supportive. The prevention is currently limited to vector control measures only.

A copy of the Press Release being issued to the media, etc. in this regard is enclosed for your kind reference and record please.

Kindly acknowledge the receipt.

Thanking you,
Sincerely yours,
for **Panacea Biotec Ltd.**

Vinod Goel
Group CFO and Head Legal & Company Secretary

Encl. : As above.

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Press Release

Panacea Biotec announces signing of agreement with Technology Development Board (TDB), Govt. of India, regarding financial assistance for development & commercialization of Dengue Tetravalent Vaccine

New Delhi, 15th November, 2017: Panacea Biotec is delighted to announce the signing of the agreement with Technology Development Board (TDB), Govt. of India for providing the financial assistance of Rs. 28.99 Crores



(Dr. Bindu Dey, Secretary, Department of Biotechnology (extreme right), Dr. Rajesh Jain, Jt. MD, Panacea Biotec (center), Mr. Devender Gupta, CFO, Panacea Biotec, Dr. Goutam Ghosh, Sr. Vice President, Panacea Biotec and other senior officials were present on the occasion of Agreement signing ceremony)

Scaran



for the "Development and commercialization of Dengue Tetravalent vaccine (Live Attenuated, Recombinant, Lyophilized)".

Dengue is a mosquito-borne flavivirus disease that has spread to most tropical and subtropical areas globally including India. The disease is caused by four immunologically defined serotypes of Dengue virus. Currently, there are no specific dengue therapeutic options available and the treatment is primarily supportive. The prevention is currently limited to vector control measures only.

Panacea Biotec's collaboration with National Institutes of Health (NIH), USA has led to the development of an advanced Dengue Vaccine in India with proven safety in pre-clinical studies. According to the results from clinical trials conducted by NIH, the candidate Dengue vaccine has been found to stimulate a strong immune response against all 4 serotypes in all age-groups and expected to be a **single dose vaccine**. Panacea Biotec has obtained Phase I/II clinical trial permission from Drug Controller General of India, New Delhi. Clinical trial lots production is in advanced stages at Panacea Biotec's cGMP facility and clinical trials will be started by early 2018.

Currently some of the vaccine candidates under development elsewhere require 2-3 doses to achieve desired immune response, while the published clinical data of only licensed vaccine outside India has shown a poor immune response against Type-2 strain of Dengue besides being a 3 dose vaccine and protects only the age group of 9-45 yrs.

Dengue Viruses are defined immunologically by serotypes, not by genotypes. The vaccine being developed by Panacea Biotec is a live attenuated tetravalent vaccine which express authentic envelop proteins for the induction of immune responses to each serotype and also express non-structural proteins capable of inducing CD4 and CD8 T-cell responses that are both serotype specific and serotype cross-reactive.

On this occasion Dr. Rajesh Jain, Joint Managing Director of Panacea Biotec has said "An efficient Dengue vaccine must provide a balanced immune response against all 4 serotypes in all age-groups ideally in a single dose regimen. Panacea Biotec's Dengue vaccine development program would therefore represent a major advancement in the control of this life threatening disease globally."




About Panacea Biotec:

Panacea Biotec Limited is a leading research based biotechnology company with established research, manufacturing and marketing capabilities. It is one of the largest vaccine producers and Biotechnology Companies in India. The Company is also amongst the top 15 pharmaceutical companies (AIOCD AWACS-MAT MAR-2017) in its represented market India and amongst top 60 pharmaceutical Companies in India. The Company has been awarded with the prestigious “**India Innovation Award 2016 – Top 50**” by Clarivate Analytics.

The product portfolio of includes highly innovative products in therapeutic areas of oncology, organ transplantation, nephrology, diabetes, osteoporosis, cardiovascular diseases and pediatric vaccines. It is working on a robust pipeline of high barrier to entry generics products, thus leveraging its capabilities in the areas of nanotechnology and platform drug delivery technologies like micro-particles, liposomes, gastroretentive systems. Panacea Biotec is the first company to have developed World’s first fully-liquid Quadravalent Vaccine **Easyfour-TT** (DTwP-Hib) Pentavalent Vaccine **Easyfive-TT** (DTwP-HepB-Hib), monovalent Polio vaccine against Type 1 and Type 3 Polio virus and **World’s First Fully Liquid whole cell Pertussis (wP) based Hexavalent Combination Vaccine, EasySix™**, The Company has research collaborations with leading national and international research organizations and corporations. The company’s state-of-the-art manufacturing facilities for vaccines and pharmaceutical formulations comply with several leading regulatory agencies worldwide. The company has around 2,500 employees including around 100 scientists working across 4 R&D centers of the Company.

For more information, please contact –



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