Weekly Inputs on DBT’s efforts to Combat COVID-19

11th June, 2021
OVERVIEW

Taking note of the unprecedented scenario of the COVID19 pandemic, the Department of Biotechnology prepared a roadmap early on with a focus on diagnosis, treatment and most importantly, prevention. DBT, its Autonomous Institutions (AIs) and the Public Sector Undertaking Biotechnology Industry Research Assistance Council (BIRAC), have been working relentlessly over the past one year to develop effective interventions for combating the pandemic.

Highlights of major activities include:

- **Support for >100 projects** in the thematic areas of vaccines, diagnostics and therapeutics.

  **Enabling 7 vaccine candidates** by industry and **8 candidates** by academia.

- Mission COVID Suraksha being implemented to accelerate Indian COVID vaccine development and augment vaccine manufacturing capacities. Supporting **5 vaccine candidates**, **19 clinical trial sites**, **6 facilities for immunogenicity assays and animal challenge models.**

- THSTI bio-assay laboratory recognized by Coalition for Epidemic Preparedness Innovations (CEPI), under their network of **7 global laboratories.**

- Organizing training programs for strengthening clinical trial capacities in neighboring countries under **PACT initiative**

- **COVID - 19 testing at 9 DBT AIs,** approved as Hubs for their respective City/Regional clusters.

- Rapid scale-up of manufacturing of indigenous COVID-19 diagnostic kits with a production capacity of about **15 Lakh kits/day** and deployment of nation’s first infectious disease mobile laboratory in Haryana.
• Supporting genomic surveillance of emerging variants of SARS-CoV-2, through **INSACOG initiative**

• **5 COVID-19 Biorepositories**
  with more than 40,000 samples available to researchers and industry.

• Development of therapeutics from natural products in partnership with **M/o AYUSH**

• **Nearly 50 BIRAC supported startups**
  have developed innovative products for COVID-19.

Major updates on the COVID-19 related activities of DBT for the period from June 04, 2021 to June 11, 2021 are placed below:

**DBT’S EFFORTS TO COMBAT COVID-19 – MAJOR UPDATES OF THE WEEK AT A GLANCE**

**VACCINES**

**Mission COVID Suraksha**

• Capacity enhancement of 03 Public Sector Undertakings (PSUs), viz., Indian Immunologicals Limited (IIL), Haffkine Biopharmaceuticals and Bharat Immunologicals and Biologicals Corporation Limited (BIBCOL), is being supported under Mission COVID Suraksha, in an effort to ramp-up Covaxin production. Transfer of Technology from Bharat Biotech to the 03 PSUs and to Gujarat COVID Vaccine Consortium (GCVC) is underway and is being monitored regularly. Technology transfer MoU with BBIL has been signed by all grantees and GCVC.

• Status of technology transfer:
  ○ Haffkine BioPharmaceuticals: MoU has been signed; Hiring of consultant and preparation of Bill of Quantities (BOQ) for the BSL-3 facility, are underway.
  ○ Indian Immunologicals Limited (IIL)- Progress is on track, third test batch validation is underway; test license from DCGI was obtained.
  ○ BIBCOL and GCVC- Term Sheets are under finalization
• An “Evaluation and Monitoring Committee for Technology Transfer”, was constituted, to provide oversight and expert guidance and to monitor the progress of the facility augmentation to support COVID-19 Vaccine manufacturing under Mission Covid Suraksha.

• Secretary, DBT, chaired a Review Meeting on 10th June, to consider the requests received from private vaccine manufacturers for Facility Augmentation to support COVID vaccine development.

**Setting up of Vaccine testing Facility (VTF)**

• Regarding up-gradation of labs at National Institute of Animal Biotechnology (NIAB), Hyderabad and National Centre for Cell Sciences (NCCS), Pune as Central Drug Labs:
  
  - At **NIAB, Hyderabad, for permanent facility**: Ongoing consultations with CDSCO & CDL on layout, SOPs, STPs etc. Use of automated machines for sterility testing from Pharmalab and Biomerieux under consideration. Layout with zoning, classification etc. completed and provisionally accepted, pending any minor modification. iClean civil team visited the site and inspected with notes on proceeding with civil work.
  
  - At **NCCS, Pune**: Construction of sterility testing laboratory is almost completed; validation at rest is completed. Foreground development work is underway and procurement of some equipment is in progress. Interview of shortlisted candidates for various positions is ongoing.

**COVID TESTING SERVICES**

• 48.5 lakh samples tested as on date across the hubs.

• 20360 samples tested in I-lab.

**GENOMICS**

• Indian SARS-CoV-2 Genomic Consortium (INSACOG) an inter-ministerial consortium of 10 public funded research institutions has been established by DBT and MoH&FW for genomic surveillance of SARS-CoV-2 in India.

• 17 additional labs are being added to INSACOG to enhance efforts towards genome sequencing of SARS-COV-2.

• A datahub for centralized storage, analysis and management of SARS-CoV-2 sequences from different Indian institutes has been established at NIBMG and IGIB. Virus isolation, culture and storage repositories are being maintained at DBT-ILS, DBT- RCB and CSIR-CCMB.
INSACOG labs have received around 20,000 samples from across India for sequencing and more than 10,000 sequences have been analyzed.

The sequences are analyzed to detect Variants of Concern (VoCs) such as B.1.1.7, B.1.351, P.1, and Variant of Interest such as B.1.617 and other emerging Variants of Interest (VolIs).

As part of the sequencing efforts, inStem, Bengaluru and NCCS, Pune have 126 samples and 1058 samples, respectively. The data for all the samples were submitted to the consortium.

As per the new nomenclature of the World Health Organisation (WHO), the B.1.617.1 and B.1.617.2 variants of the COVID-19, first identified in India, have been named as ‘Kappa’ and ‘Delta’ variants, respectively.

DBT-BIRAC supported start-up innovation AnuPath, has potential to support in an ICU setting during the COVID-19 pandemic. AnuPath is a portable, handheld diagnostic device for measuring multiple analytes in human blood and urine with an electrochemical test strip with a single drop of blood.

The IBSD jointly with Society for Ethnopharmacology (SFE), India and International Society for Ethnopharmacology (ISE), Switzerland had organised the Session-34 of the International Webinar Series - Reimagine Ethnopharmacology. Session-35 of the International Webinar Series is scheduled to take place on June 12th, 2021.

Dr. Nimesh Gupta, Scientist NII delivered a talk at a webinar under Science Setu Programme on 11th June 2021, entitled “A dive into the immunology of COVID-19 Vaccine” to cover the fundamentals of vaccine immunology and the current understanding of COVID-19 vaccine mediated protection against virus variants.


The following press release has been issued by Ministry of Science & Technology on 10th June, 2021: "Hybrid Multiply Face Masks: An Alternative to N95 Respirator, Supported by BIRAC under Fast Track COVID-19 Fund" https://pib.gov.in/PressReleasePage.aspx?PRID=1725826