



DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

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



21ST May, 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 enabled.

- 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**

- 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

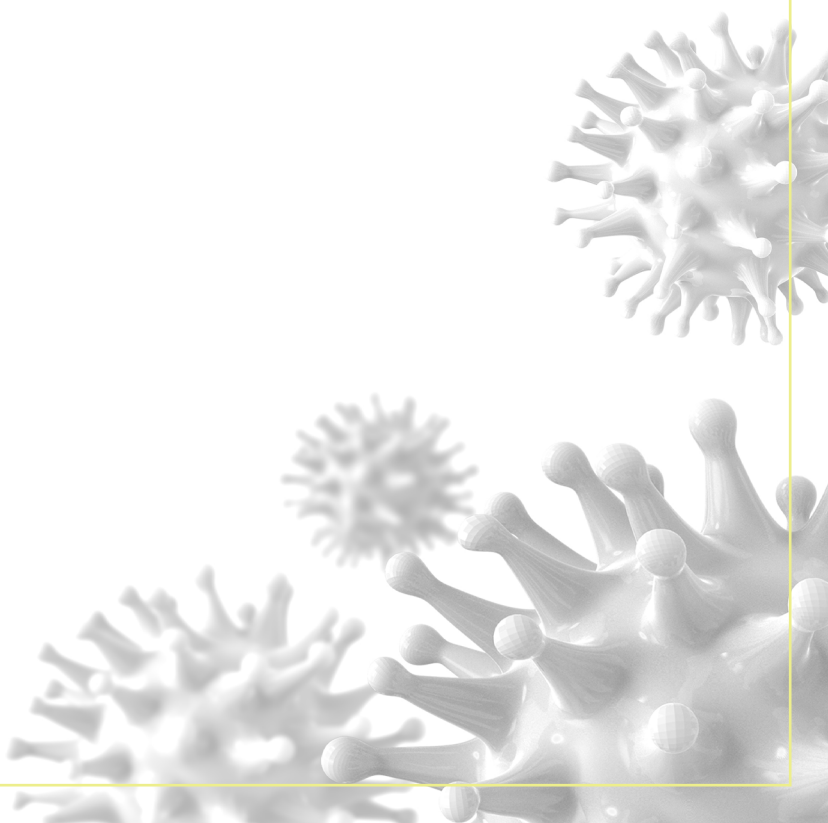
- **PACT initiative**

- **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 COVID19 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.

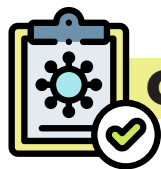


Major updates on the COVID-19 related activities of DBT for the period from May 13, 2021 to May 21, 2021 are placed below:

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



- 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 Biotech research Consortium (GBRC) is underway. IIL is currently doing the Proof of Concept and testing of process intermediates. Process optimization at higher scale is expected to be initiated soon.
- A meeting of Secretary DBT and Secretary Pharma with Dr. Reddy's team and associated manufacturing partners was held on 20th May 2021, to understand the timelines for completion of the technology transfer process, regulatory clearances and initiation of commercial manufacturing.
- The "COVID-19 Global Research & Innovation Forum", organized by WHO was held on 13th and 14th May 2021. The aim of the webinar was to continue to accelerate research that can contribute to containing the spread of COVID-19 and facilitate provision of optimal care for affected people; while integrating innovation fully within each research area.
- The 23rd NTAGI COVID-19 Working Group Meeting was held on 20th May, 2021, to discuss issues pertaining to programmatic implementation of the Russian Vaccine, Sputnik V.
- The 9th Vaccine Expert Committee (VEC) meeting was held on May 19th 2021, chaired by the Secretary, Department of Biotechnology for evaluating the COVID-19 vaccine and capacity proposals submitted under COVID-19 Research Consortium.
- Meeting of Subcommittee under National Expert Group on Vaccine Administration for COVID-19 was held on 18th May, 2021 to discuss the proposal of M/s Biological E limited, for partial financial support of At-risk manufacturing of COVID-19 vaccine.
- The first meeting of Sub-group on Vaccine Delivery, Harmonization and Administration (and Science and Tech) and main group of Quad was held on 19th May, 2021 to discuss the issues pertaining to sources of finance for procurement and distribution & possible Quad mechanism for emergency vaccine supply in crisis situations.
- 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, the Interim facility was inspected by DDCL and modifications are being done as per the directives and regulatory requirements. For permanent GLP facility Tender documents were verified for compliance and SOP's were drafted.
 - Construction of Sterility Testing Laboratory and Procurement of Equipment as part of the permanent GLP facility is underway at NCCS. Recruitment of manpower is in process.



COVID TESTING SERVICES

- 44.48 lakh samples tested as on date across the hubs.
- 18972 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 20000 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 (Vols).



FACILITIES AND SERVICES PROVIDED BY



DBT AUTONOMOUS INSTITUTES

- The DBT supported COVID-19 biorepositories at THSTI, Faridabad; ILS, Bhubaneswar; inStem, Bengaluru; NCCS, Pune; ILBS, New Delhi, have archived more than 48,000 COVID-19 biospecimens and shared nearly 16,000 samples with biomedical researchers from industry and academia. Detailed information is annexed as Annexure -II.



MEETINGS, WEBINARS AND PRESS RELEASES

- A meeting entitled “Consultation on Opportunities for SARS-CoV-2 Research Collaboration” with the National Institute of Allergy and Infectious Diseases (NIAID) and select experts, was held on May 19, 2021 under the umbrella of the Indo-US Vaccine Action Programme (VAP), to discuss important areas of cooperation, in light of the emerging SARS-CoV-2 variants and their impact on vaccine development and immune responses.
- IBSD jointly with Society for Ethnopharmacology (SFE), India and International Society for Ethnopharmacology (ISE), Switzerland had organised Session-33 of the International Webinar Series-Reimagine Ethnopharmacology.
- The following press release has been issued by Ministry of Science & Technology on 15 May, 2021: “Government Supports Augmentation of Manufacturing Capacity for COVAXIN production under Mission COVID Suraksha”.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1718791>

COVID-19 – BIOREPOSITORIES

Institute	Disease Status/ Phenotype	No. of Samples Archived	Type of Samples	No. of samples Shared	Shared with
THSTI, Faridabad and RCB, Faridabad	RT-PCR confirmed COVID-19 positive	12581	Serum, NP/OP swab, Plasma, PBMCs	~11302 (Academia)	Academia & Industry
	RT-PCR confirmed COVID-19 negative	3367	Serum, NP/OP swab	~4354 (Industry)	
	RT-PCR confirmed COVID-19 positive - Virus Isolates	3	Virus Isolates	3 (Academia)	
	Post Vaccination Cohort	144	Plasma, PBMCs	144 (Academia)	

Institute	Disease Status/ Phenotype	No. of Samples Archived	Type of Samples	No. of samples Shared	Shared with
ILBS, New Delhi	Covid positive	411	Serum		Academia
		12000	Nasopharyngeal swab	+51 25	
		7240	Plasma	128	
		2031	Buffy coat	50	
		315	Saliva		
		188	Stool	04	
		806	Urine		
		16	Pleural fluid		
		30	PBMC		
		53	Whole blood		
	Convalescent serum	9084	Serum	-	
	Convalescent plasma	3776	Plasma	-	
	Covid Negative	4657	Serum Nasopharyngeal swab	-	
ILS, Bhubaneswar	RT-PCR confirmed COVID-19 positive patients (202) Symptomatic (91) Asymptomatic (111)	RT-PCR confirmed positive patients = 202 RT-PCR negative persons = 50 Convalescent patients (after 1-2 months of recovery) = 35	Serum (202 individual patients)	Serum (150 individual patient specimen)	ILS scientists Imgenex, Bhubaneswar Prantae solutions, Bhubaneswar
			Plasma (150 individual patients)	Plasma (150 individual patient specimen)	
			PBMC (50 individual patients)	PBMC (20 individual patient specimen)	
			Oropharyngeal swab (150 individual patients)	Oropharyngeal swab (150 individual patient specimen)	
			Urine (120 individual patients)	Urine (none)	
			Stool (110 individual patients)	Stool (100 individual patient specimen)	


Institute	Disease Status/ Phenotype	No. of Samples Archived	Type of Samples	No. of samples Shared	Shared with
InSTEM Bangalore	COVID-19	573	Swabs Saliva Serum Virus	13	Industry
NCCS Pune	SARS-CoV-2- infected & convalescent patients	127 samples	Plasma & Peripheral blood mononuclear cells (PBMCs)	a) Total number of plasma samples shared so far: 122 b) Total number of PBMC samples shared so far: 2	a) Plasma samples were shared with - •NCCS faculty:107 •Gennova Biopharma- cuticals Ltd, Pune:15 b) PBMC samples were shared with - •NCCS faculty:2





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