

Government of India
Ministry of Science and Technology
Department of Biotechnology

SUB: Cabinet Summary for June-2020

I. Important policy decisions taken and major achievements are as follows:

1. Medical Biotechnology:

A. COVID related Initiatives:

i. Establishment of COVID-19 Bio-repositories

As per the directives of the Cabinet Secretary, 16 bio-repositories have been identified by Govt. of India for collecting, storing and maintaining clinical samples (oro- pharyngeal / nasopharyngeal swabs, broncho-alveolar lavage, sputum, blood, urine and stool) of COVID19 patients. The designated bio repositories will use the clinical samples for R&D purpose in their respective Institutions. In addition, they are also authorized to share the samples with academia, industry and commercial entities involved in development of diagnostics, therapeutics, vaccines etc., after scrutinizing the purpose of the request and ensuring benefit to the country. The details of 16 Bio Repositories are as follows: ICMR Institutes – 9, DBT Institutes – 4 and CSIR Institutes – 3.

The following 4 institutions under the purview of DBT are notified for COVID-19 Bio-repositories:

- a. Translational Health Science & Technology Institute, Faridabad (DBT Institute)
 - b. Institute of Life Sciences, Bhubaneswar (DBT Institute)
 - c. Institute for Stem Cell Science and Regenerative Medicine (inStem), Bangalore (DBT Institute)
 - d. Institute of Liver & Biliary Sciences, New Delhi (under Government of the National Capital Territory of Delhi as an autonomous institute)
- ii. Six Autonomous Institutes of DBT- International Centre for Genetic Engineering and Biotechnology (ICGEB), Regional Centre for Biotechnology (RCB), Institute of Life Sciences (ILS), Translational Health Science and Technology Institute (THSTI), Rajiv Gandhi Centre for Biotechnology (RGCB) and Institute of Bioresources and Sustainable Development (IBSD), have been notified for evaluation of novel investigational products against COVID-19.**

Further, five Autonomous Institutes of DBT namely Translational Health Science and Technology Institute (THSTI), Institute for Stem Cell Science and Regenerative Medicine (inStem), Institute of Life Sciences (ILS), International Centre for Genetic Engineering and Biotechnology (ICGEB) and Rajiv Gandhi Centre for Biotechnology (RGCB) have been identified to provide support as COVID-19 diagnostic kit validation centres. Harmonized protocols for validation of RT PCR and Antibody based kits have been developed.

iii. DBT City/Regional Clusters for Covid-19:

The City /Regional clusters are being established in a Hub and Spoke model to scale-up testing of COVID-19 samples in government institutions across the country. The Hubs are Government laboratories approved by respective Ministries

/Departments (DBT, DST, CSIR, DAE, DRDO, ICAR etc) as per ICMR guidelines. So far 21 City /Regional clusters have been established. More than 100 institutions are involved and over 3,50,000 samples have been tested.

To further enable testing access to rural India, the I-lab (infectious disease lab) - mobile lab for Covid testing was launched by Hon'ble Minister S&T and MoHFW on 18th Jun'20. The I-lab can perform both RT-PCR and ELISA tests. The first lab is attached to THSTI hub and had performed about 100 tests in the Faridabad region. More labs are expected to be deployed through participation of various State Governments.

iv. Special Call on Covid-19 Research Consortium:

DBT and BIRAC announced a joint call for proposals-COVID-19 research consortium. 58 proposals received from academia pertaining to diagnostics and 5 proposals have been recommended for diagnostic efforts from academia and they are processed for financial support.

v. Joint Meeting of the Empowered Technology Group and PMO Constituted Task Force for Focused Research on Corona Vaccine and other S&T Issues:

The Department of Biotechnology participated in the seventh Joint Meeting of The Empowered Technology Group and PMO Constituted Task Force for Focused Research on Corona Vaccine and other S&T Issues, under the Co-Chairmanship of Dr. Vinod Paul, Member (Health), NITI Aayog and Prof. K. Vijay-Raghavan, Principal Scientific Adviser to the Government of India, held on 30th June, 2020. Discussion on supporting COVID-19 vaccine development efforts was held during the meeting.

vi. Standing Technical Sub Committee (STSC) Meeting of the National Technical Advisory Group on Immunization (NTAGI):

The 24th Standing Technical Sub Committee (STSC) Meeting of the National Technical Advisory Group on Immunization (NTAGI) was held on 26th June, 2020 via tele conference. An update on global and Indian COVID-19 vaccine development efforts was presented during the meeting.

B. Inter-Institutional Biodesign Center:

A call for proposal for establishment of Inter-institutional biodesign centers was announced. 34 proposals were received. The shortlisting committee meeting was held in May and 11 proposals have been shortlisted for further consideration through presentation. The proposals were considered through presentation in the meeting held on 5th Jun, 2020 and five proposals are being considered further for support.

C. Approach to develop CAR-T Cell therapy at an affordable price in India:

A Virtual meeting of the Screening Committee to review the Concept Proposals received against the Request for Proposal (RFP) on "Approach to Develop CAR-T Cell therapy at affordable price in India" was held on 9th June 2020. A total of 11 proposals were recommended for submission of full proposals for further consideration.

2. International Cooperation

A. Indo-Australian Biotechnology fund (IABF): Special call on COVID 19 was announced on 4th June 2020, under Round 13 of this collaboration between DBT, India and Department of Industry, Innovation and Science (DIIS), Australia in the

following areas:

- i. Development of immunotherapeutic
- ii. Development of animal model / *in vitro* model for vaccine development
- iii. Assay development and validation for testing of vaccines and therapeutics
Viral genomics and bioinformatics

The call is open upto 2nd July 2020.

B. Indo-UK Cooperation: The Department of Biotechnology (DBT), New Delhi in collaboration with Academy of Medical Sciences, UK launched a call for Newton International Fellowship 2020 for Postdoctoral Research on 15th June, 2020. This programme will facilitate a 3-year postdoctoral research opportunity for exceptional researchers from India to pursue research in the area of Clinical and Patient-Oriented Research. The first 2 years of the fellowship will be spent in the UK followed by final year of the fellowship in India.

The Department in partnership with British Council, UK launched the 6th call for Newton-Bhabha Ph.D. Placement Programme on 15th June, 2020. The program will offer short term (2-4 months) placement of Indian Ph.D. Scholars in the UK and UK Ph.D. Scholars in India. This programme will offer access to infrastructure, facilities, and expertise to complement Ph.D. research scholars.

C. DBT TWAS Fellowships: Under this ongoing collaboration between the Department of Biotechnology, India and The World Academy of Sciences (TWAS), Italy, fellowships are provided to foreign scholars from developing countries who wish to pursue research in newly emerging areas in biotechnology. The fellowships are tenable in Institutes in India. Results have been declared for the call announced in 2019 under the fellowship programme (Post Graduate Sandwich Fellowship & Post-Doctoral Fellowship). Selected fellows are from Countries like Egypt, Nigeria, Cameroon and Cote d' Ivoire.

D. Indo-Finland: A webinar was conducted on 25th June on 'Advancing Collaboration across India - Finland- Estonia' with Biotechnology as the focus sector. The webinar highlighted success stories of the collaboration and the innovation.

E. Indo-Sweden: A circular bioeconomy call was discussed between Indian and Swedish funding agencies and a draft call was exchanged between the respective agencies.

F. Indo-France: The MoA between DBT and CNRS France has been forwarded to MEA for final approval.

3. Department of Biotechnology (DBT), Govt of India, has established the National Genomics Core (NGC) with its hub in NIBMG, Kalyani, and centres in CDFD, Hyderabad, and University of Allahabad. NGC provides consultancy and services to the academia, clinics and the industry using high-throughput sequencers and high-density microarrays in human-, bacterial- and meta-genomics. NGC is committed to provide affordable services in high-quality data generation and computational & statistical data analysis. NGC is constantly expanding its repertoire of service platforms. NIBMG started providing genomic core services. Soon, CDFD will also start its activities. As part of first step, Central Core at NIBMG is already announcing

service solutions to the interested clients via its communication channel, coteri@nibmg.ac.in.

4. Starts up/Make in India activities

- A. **First Hub: Facilitation of Innovation and Regulations for Start-Ups and Innovators:** ‘First Hub’ a facilitation unit set up by DBT at BIRAC to address the queries of Innovators. With regards to prevailing situation around globe, special FIRST HUB COVID-19 sessions are being held every alternate Friday to solve the queries of innovators. Representatives from CDSCO, ICMR, NIB, GeM, KIHT, BIS, DBT and BIRAC are available to take queries on Regulatory Pathways, Funding Opportunities, Public Procurement, IVD testing and validation, Standards and Specifications, Manufacturing and testing infrastructure support. These sessions started from 03rd April’20. For the month of June, session for COVID-19 was conducted on 5th and 19th June 2020. In total more than 100 queries were taken in these special sessions.
- B. **Make-in India/Start-up India activities:** A Project Development Cell (PDC) at DBT/BIRAC to identify and create Project Proposals for attracting investments in the Biotech Sector as per the recommendation of the Government, which is coordinated by DPIIT. To facilitate PDC activities, assessment was done on global partnerships and potential investment points in the country in a meeting held under the Chairpersonship of the Secretary, DBT. Dr Alka Sharma has been nominated as the PDC node for the biotech sector.

5. Biosafety and Regulation:

- A. An expert committee meeting was held on 01.06.2020 to finalize the Standards/ Specifications for the establishing containment level 3 & 4. The Committee finalized the guidance document for BSL-2 and BSL 3 and same was recommended for the consideration by RCGM committee.
- B. The division had conducted 184nd meeting of ‘Review Committee of Genetic Manipulation (RCGM)’ on 04.06.2020. During the meeting, the following major components are considered –
- Committee considered 71 applications including information items submitted by the various applicants.
 - The Committee approved and adopted “Guidance document on Standards/Specification for the Establishment of Biosafety Containment Level 2 and 3 Facility & Standard Operating Procedures”.
 - In order to reduce the time lines for regulatory approval where ever possible, RCGM recommended that the meeting shall be conducted at a 3 weeks interval for the next 3 months starting from July, 2020 and the shift to 2 weeks interval.
 - During the month 32 Institutional Biosafety Committee were constituted on IBKP portal.
 - First meeting of the Sub-Committee of RCGM to deliberate on applications of Biosafety Research Level (BRL) trials for environmental clearance was held on 27.06.2020.
 - First meeting of the Sub Committee constituted to come up with the Engineering Controls for the Certification of BSL-3 facility was held on 24.06.2020.
- C. **DGFT Cases:** The comments of the Department were communicated to DGFT on three application seeking permission for export of SCOMET (Special Chemicals,

Organisms, Materials, Equipment and Technologies) items.

D. Comments provided to Ministry of External Affairs on the Draft 1540 Committee Matrix.

6. Technology/products developed by the Autonomous Institutes: Three (3)

- i. Three high yielding chickpea varieties are undergoing field trials.
- ii. A low Glucosinolate mustard is in event selection trials.
- iii. A devise for enhancing shelf life of fruits is being developed. This has received funding from the BIRAC Biotechnology Ignition grant.

7. Autonomous Institutions

A. The following institutions are made Covid-19 testing centres – Institute of Life Sciences, Bhubhaneswar, Odisha (35000 tests); Centre for DNA-Fingerprinting and Diagnostics, Hyderabad, Telangana (2500 samples); Translational Health Science and Technology Institute (THSTI), Faridabad (>15000 tests); National Centre for Cell Sciences, Pune, Maharashtra (4000 Smaples); Institute for Stem Cell Science & Regenerative Medicine (inStem), Bengalauru, Karnataka (>18500 Samples).

B. The major scientific achievements are as follows –

- a. **National Institute of Plant Genome Research (NIPGR), New Delhi, Delhi** - A transporter assay system using the cotton cell line (CCL-1) to study the sub-functionalization of glucosinolate transporters (GTRs) of Brassicaceae family has been developed; A forward genetic screen using transgenic calcium reporter aequorin has been developed to identify novel targets in calcium signaling activated upon stress perception; Genomics approach involving Phospholipase (PLC) gene family in abiotic stress signaling and responses has been demonstrated in Chickpea; Five major classes of C4 pathway-specific genes have been identified in the model millet species.
- b. **National Institute of Immunology (NII), New Delhi, Delhi** - Use of Toll-like Receptors (TLR) carrier protein conjugated to polysaccharide improved the antibody titer; delivery using nanoparticles modulated the cytokine profile resulting in antibody class switching; immunization of mice with live typhoidal serovar, *Salmonella Typhi*, generates cross-reactive immune responses, which provide far greater resistance against challenge with nontyphoidal serovar *Salmonella Enteritidis* than with another non-typhoidal serovar, *Salmonella Typhimurium*. These findings have significant and broader implications for immunity and vaccine development against pathogenic Salmonellae.
- c. **National Centre for Cell Sciences (NCCS), Pune, Maharashtra** - Scientists at NCCS are exploring generation of neutralizing human monoclonal antibodies against SARS-CoV-2, in partnership with IIT Indore, PredOmix Technologies Pvt. Ltd., Bharat Biotech International Ltd. & AFMC, Pune, with support from CSIR-NMITLI and generation of a recombinant virus from SARS-CoV-2 as a vaccine candidate; NCCS sequenced 45 sequences of SARS-CoV-2 genome, which belongs to the clade 20B, 40 to 20A and 6 to 19A. 77 carry the D614G mutation; through machine learning algorithms, four peptides were identified, which have shown strong binding affinity against the main protease of SARS-CoV-2 (Mpro); A bio-bank of blood cells and plasma from infected and recovering COVID patients is being created at NCCS.

C. In total, 11 MoU/MoA has been signed by the institutions.

- D. In total, the number of publications appeared are 51. The four Indian patents & one PCT filed and one granted. Three technologies are developed by National Institute of Plant Genome Research (NIPGR), New Delhi. The meetings/Seminars/Lectures organized are 51.

8. Public Sector Undertakings (PSU)

A. Biotechnology Industry Research Assistance Council (BIRAC), New Delhi

- i. **Evaluation of new proposals received under BIPP, SBIRI and PACE Program:** Out of 285 proposals received under BIPP SBIRI and PACE, the Committee finally recommended 30 proposals for further consideration.
- ii. **A new Call for Proposal on “Anti- SARS-CoV-2 /nCoV-2 Virus Studies using Botanical Ingredients and Traditional Formulations”** from Industry/Academia/ Industry- Academia was launched on 12th June 2020 along with Department of Biotechnology in areas of Development of phytochemicals having anti-viral activity. The call will close on 3rd July 2020.
- iii. **Royalty on the products/technologies developed through BIRAC support:** One of the BIRAC funded company, M/s AP Organics Pvt Ltd. has paid a royalty amount of Rs.10,98,041 on the sale of their product developed through BIPP support.
- iv. **Bio-International Convention 2020:** BIRAC along with DBT participated in BIO India Bilateral discussion on 11th June during Bio-International Convention 2020 webinar. Secretary, DBT, Head-SPED BIRAC, Mission Director - NBM participated. The Bilateral discussion was organized by DBT, Invest India and US-India Business Council (USIBC).
- v. **The following Webinars/Workshops are organized –**
 - a. **Advancing Collaboration Across India - Finland – Estonia:** The international webinar was organized by MII Cell of BIRAC along with Embassy of India in Finland and Estonia and Invest India 25th June 2020 to showcase 4 Biotech Clusters in India, Startup ecosystem for introducing opportunities of Biotech collaboration between India – Finland, India-Estonia.
 - b. **Webinar series on Investment strategies for ecosystem sustenance were organized by MII cell of BIRAC: tart-up Ecosystem: Navigating Through COVID-19 Crisis** on 28th May 2020 and **New Trends in Investment for Healthcare Startups: Investors’ perspectives** on 29th May 2020.
 - c. **IP Workshop:** BIRAC along with its Regional Center BRIC organized an IP Workshop for Shimla- Palampur- Shoolini and North-East cluster on 8th June 2020.
 - d. **TiE-Entrepreneurship Awareness Workshop:** BIRAC along with TiE-Delhi NCR organized a TiE-Entrepreneurship Awareness workshop on 4th June for student entrepreneurs to get access to hands-on knowledge, success stories and expertise.
 - e. **SITARE Biotech Ignition Innovation School (BIIS):** BIRAC along with SRISTI (Society for Research and initiatives for Sustainable Technologies and Institutions) organized a 3 weeks SITARE Biotech Ignition Innovation School (BIIS) from 8th– 27th June 2020.

B. Bharat Immunologicals & Biologicals Corporation Ltd. (BIBCOL): Nil

C. Indian Vaccine Corporation Ltd. (IVCOL): Nil

9. It is confirmed that the incumbency details of all the posts in the Ministry/Department (both Autonomous institutes and PSUs under DBT) falling under the purview of the ACC have been updated on AVMS. It is also confirmed that the directions of ACC are complied.