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Ministry of Health & Family Welfare

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सत्यमेव जयते

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International Training Programme on Sterility Testing and Bacterial Endotoxin Testing (Pharmaceutical Microbiology)

Organized by the National Institute of Biologicals (NIB) for pharmaceutical analysts from the National Medicines Regulatory Authority (NMRA), Sri Lanka from 04th to 15th May, 2026

Director's Desk



It gives me immense pleasure to present the April to June 2026 issue of the National Institute of Biologicals (NIB) Newsletter, highlighting a productive quarter marked by scientific excellence, regulatory strengthening, capacity building, and continued commitment to safeguarding public health. As India's apex regulatory laboratory for biological products and a notified Central Drugs Laboratory and Central Medical Device Testing Laboratory, NIB remains committed to ensuring the quality, safety, and efficacy of biological medicines, vaccines, blood products, and in-vitro diagnostics. During the quarter, NIB further strengthened its regulatory quality-control portfolio through the addition of seven new biological products, bringing the total number of biologicals under NIB's regulatory quality-control scope to 347 as of June 2026.

The quarter witnessed significant achievements in quality assurance and quality-control activities. The Centralized Facility for Bioassays completed test method standardization of newer monoclonal antibodies, including Serplulimab, Brolucizumab, and Guselkumab. The Biochemistry Kit Laboratory received an Outstanding Performance Report from the Christian Medical College (CMC), Vellore, under the EQAS programme for Chemistry II parameters. The Recombinant Products Laboratory continued its work towards development of the Insulin Glargine National Reference Standard, while the Blood Product Laboratory contributed to strengthening the Indian Pharmacopoeia by submitting a proposal for the addition of a new monograph, Human Coagulation Factor IX (rDNA), along with a proposal for amendment of the monograph on Human Normal Immunoglobulin.

Scientific engagement remained a strong feature of the quarter, with NIB scientists participating in expert working groups, technical committees, conferences, workshops, inspections, and national and international scientific forums. The Institute also facilitated the NABL on-site surveillance audit, reaffirming its commitment to internationally recognized standards of laboratory competence and quality management.

Capacity building remained a key institutional priority, with NIB organizing a range of lectures, interactive sessions, workshops, and training programmes covering Good Laboratory Practices, bacterial endotoxin testing, biopharmaceutical workflows, current perspectives on HPV vaccines, emerging therapeutic approaches for dengue, ISO 17034:2016, and NABL requirements. The Institute further strengthened international regulatory cooperation by conducting a ten-day training programme on Sterility Testing and Bacterial Endotoxin Testing for pharmaceutical analysts from the National Medicines Regulatory Authority (NMRA), Sri Lanka.

I am particularly pleased to note the continued scientific contributions of our scientists through research publications, expert committee participation, and professional engagements. These accomplishments reflect the strong culture of scientific inquiry, knowledge sharing, and excellence nurtured at NIB. As we move forward, NIB remains committed to advancing scientific excellence, strengthening regulatory systems, expanding capacity-building initiatives, and fostering meaningful collaborations. Guided by its mandate and driven by the dedication of its scientists, technical personnel, and supporting staff, the Institute will continue to uphold the highest standards of quality assurance for biological products and contribute to a stronger and safer healthcare ecosystem in the service of the nation.

With Best Wishes

(Dr. Neelima Mishra)

Contents in this Issue	Page No.
Article: Bioassays for Antibody Therapeutics: Quality and Complexity	3-4
Confernces	5
Quality Assurance / Quality Control of Bio-Therapeutics, Prophylactics and In-Vitro Diagnostics	5
Nomination/ Participation of NIB Scientists in various Meetings/ Workshops	5-6
Events Under Annual Capacity Building Plan-2026-27 for NIB Officials	6-7
Trainings	7-8
NIB Visits & Interaction with Laboratory Staff	8
Publications	8

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ARTICLE

Bioassays for Antibody Therapeutics: Quality and Complexity



Dr. Subhash Chand, Scientist Grade- III

Dr. Subhash Chand has 18 years of professional experience in pharmaceutical quality control, regulation, and research. He joined the National Institute of Biologicals (NIB) in 2010, working across various quality control laboratories, including Sterility Testing, Vaccine Laboratory, Therapeutic Monoclonal Antibody Laboratory, and Quality Management Unit. Currently, he serves as Scientist Grade III and Head of the Centralized Facility for Bioassays (CFB), overseeing various cell-based bioassays testing for the quality control evaluation of therapeutic products at NIB. Additionally, Dr. Chand is a notified 'Government Analyst' for therapeutic monoclonal antibodies and a qualified NABL Assessor as per ISO/IEC 17025:2017.

The biopharmaceutical sector has expanded rapidly since the 1982 debut of human insulin, the first recombinant biologic. Today, monoclonal antibodies (mAbs) lead the market due to their target specificity and varied mechanisms of action (MoA). Over time, increasing clinical demands in oncology, autoimmune, and infectious diseases have driven the development of more sophisticated antibody-based modalities, including bispecific antibodies (bsAbs), antibody–drug conjugates (ADCs), and Fc-fusion proteins, which are engineered to enhance immune engagement, target specificity, or pharmacokinetic properties. Bioassays drive the development and commercialization of these biologics, serving as the definitive measure of biological activity and functional integrity alongside physicochemical characterization. The diverse, multi-step MoAs of antibody therapeutics mean that accurate QC potency testing depends entirely on functional assays tailored to their intended biological activity. Furthermore, rising molecular complexity has multiplied validation and regulatory challenges, driving the need for robust, stability-indicating, and orthogonal analytical approaches.

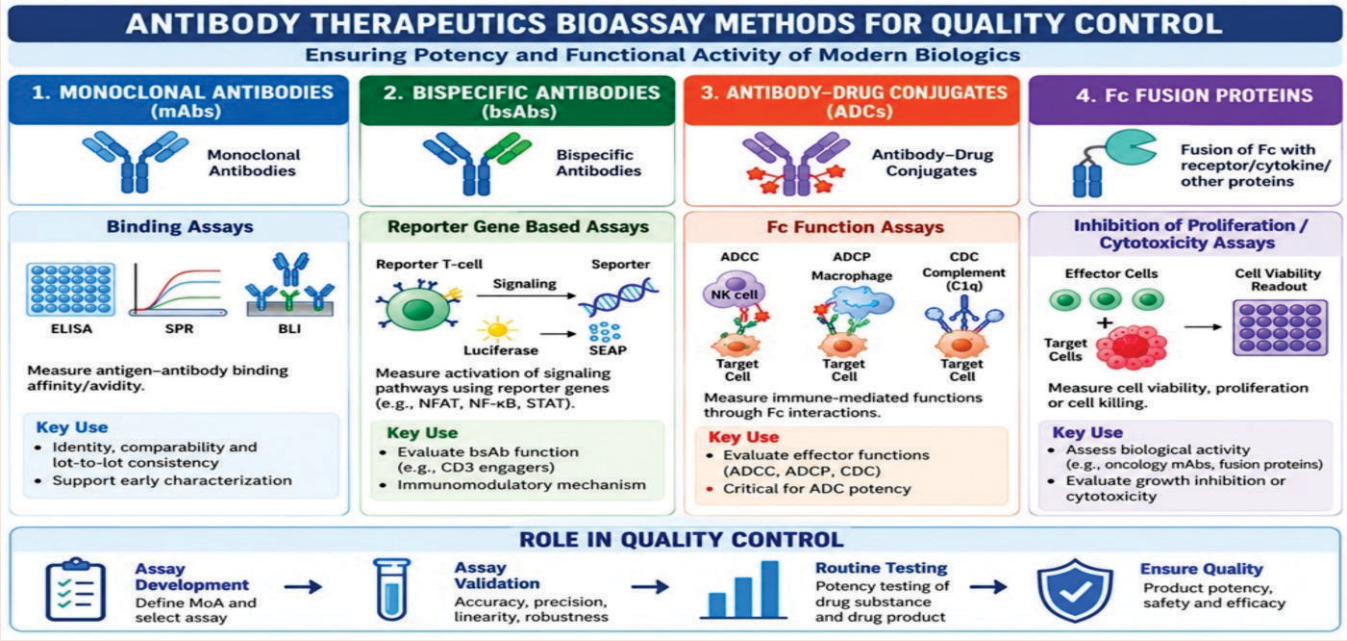
Modality and Complexity in Mechanisms of Action

The antibody therapeutics encompass a diverse range of modalities, including monoclonal antibodies (mAbs), antibody–drug conjugates (ADCs), bispecific antibodies (bsAbs), and Fc-fusion proteins, each possessing distinct and often multi-step mechanisms of action (MoAs). Conventional mAbs may function through ligand blockade, receptor activation or inhibition, or Fc-mediated immune effector functions such as antibody-dependent cellular cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC). ADCs combine selective antibody targeting with intracellular delivery of cytotoxic payloads, requiring sequential processes such as target binding, internalization, linker cleavage, and payload release. Bispecific antibodies simultaneously engage two targets, such as tumor antigens and CD3 on T cells, thereby inducing immune activation and tumor-cell killing, while Fc-fusion proteins or receptor decoys utilize Fc-linked ligand-binding domains to modulate signaling pathways. Due to this functional complexity, a single assay is rarely sufficient to define potency, and multiple complementary assays are often required to capture all relevant biological activities in product characterisation during the product development.

Functional Bioassay Types

According to the therapeutic MoA, functional bioassays used for quality evaluation for estimation of potency are;

1. Binding assays such as ELISA, SPR, and BLI are widely used for identity and comparability assessments because of their precision and simplicity, although they do not measure downstream biological effects.
2. Reporter gene assays employing luciferase or Secreted Embryonic Alkaline Phosphatase (SEAP) systems linked to NFAT, NF-κB, or STAT signaling pathways are commonly used for bsAbs and immunomodulatory antibodies due to their strong mechanistic relevance and scalability.
3. Cell-based proliferation and cytotoxicity assays directly assess cell viability or killing and are particularly important for oncology therapeutics such as ADCs and T-cell engagers, although they are often associated with higher variability.
4. Fc-effector assays, including ADCC, ADCP, and CDC, are critical for evaluating immune-mediated activity.
5. Specialized assays such as internalization and payload-release studies provide additional mechanistic insight, particularly during product development.



Integrated bioassay methods for quality control of antibody therapeutics. Overview of major antibody modalities (mAbs, bsAbs, ADCs, and Fc-fusion proteins) and key biological activity / potency estimation assays including binding, reporter gene, Fc-effector, and cytotoxicity assays, highlighting their roles in assessing biological activity, stability, consistency, and regulatory compliance.

Challenges in Assay Development and Validation

❖ Developing robust potency assays for complex antibody therapeutics remains a major challenge because cell-based bioassays are inherently variable and highly sensitive to experimental conditions. Factors such as cell density, receptor expression, source of cell supplements, serum batch, incubation time, and cell passage number can significantly affect assay performance, resulting in high inter-assay variability across runs or laboratories. Regulatory agencies acknowledge these limitations and emphasize the need for careful assay qualification and validation.

❖ Another critical challenge is the absence of universal reference standards for many biologics. Potency assays therefore depend on well-characterized in-house reference materials, with activity measured relative to these standards using statistical approaches. Stability-indicating capability also remains essential because biologics may undergo aggregation, oxidation, fragmentation, or conformational changes during storage. As noted in ICH Q6B, no single assay is sufficient to indicate stability; therefore, manufacturers typically establish a panel of orthogonal assays combining potency, binding, and structural characterization.

❖ Specificity and sensitivity are equally important considerations. Potency assays must accurately measure the intended biological activity without interference from background cytokine signaling, formulation components, or nonspecific payload release.

❖ Robustness and throughput are also crucial in QC environments, where assays must consistently perform under routine testing conditions. Complex co-culture or imaging assays often require simplification, miniaturization, or automation to improve reproducibility and throughput.

Way Forward and Emerging Solutions

❖ To address these limitations, manufacturers increasingly employ engineered reporter cell lines with stable signalling machinery, such as NFAT-luciferase systems, to reduce variability and improve scalability. Maintaining standardized master and working cell banks further minimizes cell-line drift and ensures long-term assay consistency. Additionally, the industry is transitioning toward advanced culture models, integrating three-dimensional (3D) cell cultures like spheroids or organoids to better mimic the native in vivo microenvironment and improve physiological relevance. These platforms are widely supported by orthogonal assay strategies, where a primary potency assay is complemented by methods measuring alternative biological mechanisms or surrogate markers. These orthogonal approaches typically include cytokine-release assays, receptor occupancy measurements, and phosphorylation-based signalling readouts.

❖ Automation and high-content imaging technologies are increasingly used to reduce operator-dependent variability and improve assay precision, particularly for internalization or phagocytosis studies. Advanced statistical approaches, including equivalence testing, four-parameter logistic modeling, total-error analysis, and design-of-experiment optimization, are also essential for controlling assay variability and establishing reliable acceptance criteria. In parallel, digital analytics platforms and multivariate monitoring tools are emerging as valuable approaches for tracking long-term assay performance and identifying drift.

❖ As antibody therapeutics continue to increase in complexity, quality evaluation testing must evolve toward integrated, mechanism-based strategies that combine binding assays with physiologically relevant functional bioassays. Careful assay selection, standardization, orthogonal validation, and regulatory alignment remain critical for ensuring reliable potency estimations, product consistency, and compliance to regulatory expectations.

CONFERENCES

❖ Dr. Suresh Kumar, Scientist Grade-II and Mr. Lakhan, Lab Technician, attended National Conference on "Laboratory Animal Welfare: Policies and Best Practices" organized by the Committee for Control and Supervision of Experiments on Animals (CCSEA) and the Department of Animal Husbandry and Dairying (DAHD) at Dr. Ambedkar International Centre, Delhi, on 11th May, 2026.

❖ Mrs. Y. Madhu has attended the conference on "Ensuring Quality of Blood and Blood Components through IP 2026" on 24th June, 2026 at Indian Pharmacopeia Commission, Ghaziabad.

QUALITY ASSURANCE / QUALITY CONTROL OF BIO-THERAPEUTICS, PROPHYLACTICS AND *IN-VITRO DIAGNOSTICS*

❖ Biochemistry Kit Laboratory (BKL) received an Outstanding Performance Report from the Department of Clinical Biochemistry, Christian Medical College (CMC), Vellore, in April 2026, for the period January–December 2025, under the EQAS programme for Chemistry II parameters, including glucose, cholesterol, triglycerides, creatinine, uric acid, and albumin.

❖ Blood Product Laboratory (BPL) has submitted one proposal for the addition of a new monograph, "Human Coagulation Factor IX (rDNA)," in the Indian Pharmacopoeia and has also submitted a proposal for an amendment to the monograph "Human Normal Immunoglobulin" regarding a typographical error in the "Anti-A Anti-B haemagglutinins test."

❖ Recombinant Products Laboratory (RPL) has communicated with the study participants to obtain their consent for participation in the development of the Insulin Glargine National Reference Standard (NRS) through the ILC study.

❖ Centralized Facility for Bioassays (CFB) has completed the test method standardization of newer MAbs Serplulimab, Brolucizumab, and Guselkumab as per the respective manufacturers' protocols.

NOMINATION/ PARTICIPATION OF NIB SCIENTISTS IN VARIOUS MEETINGS/ WORKSHOPS

❖ Dr. Shikha Yadav, Scientist Grade-I and Head, attended the 1st expert working group meeting on "Drafting medical devices monographs for Indian Pharmacopeia" on 2nd April, 2026 at Indian Pharmacopoeia Commission.

❖ Dr. Charu M. Kamal, DD(QC), Ms Gurminder Bindra, Scientist Grade-III, attended 17th Meeting of the Expert Working Group - Biologicals and DNA Products on 7th April, 2026 through video conferencing.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, delivered a lecture titled "Ensuring product integrity in biological- to-clinical translation" as invited speaker in research-industry-Academia interface symposium at Department of Biotechnology IIMT University-Meerut on 7th April, 2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, attended as DBT nominee, the Institutional Biosafety Committee (IBSC) held at Government Institute of Medical Sciences (GIMS), Greater Noida, on 9th April, 2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, delivered a key note Prof. Ranjana Saxena Memorial Lecture hosted under National Conference on challenges & issues in Integrating Modern Scientific Research for a sustainable future: The vision of *Viksit Bharat* (CISRSF) on 16th April, 2026 organized by Dept. of Botany & Zoology, Dayal Singh College (University of Delhi), Lodhi Road, New Delhi.

❖ Mr. Tara Chand, Scientist Grade-III, and Dr. Jyoti Sharma, Scientist Grade-III, attended the workshop titled "Scientific Conclave on Weights and IP 2026 Updates" on 21st April, 2026 at Indian Pharmacopoeia Commission, Ghaziabad.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, as DBT nominee, attended the 7th IBSC Committee meeting of Med therapy on 24th April, 2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, as scientific resource person, delivered an invited talk at the DRDO-sponsored Two-day National Conference on "Recent Trends of Artificial General Intelligence (AGI) in Strategic Health Systems – Building Resilient Nation" organized by Faculty of Pharmacy, Vidya University, Baghpat Road, Meerut, UP, on 29th April, 2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, organized Tree Plantation Ceremony on the occasion of "World Environment Day" as AcSIR Coordinator on 5th May, 2026.





❖ Dr. Gauri Misra, Scientist Grade-I and Head, as the Chairperson and Coordinator, attended the Citation and Prize Award Ceremony for the Reel Making Competition 2026 organized by the AcSIR–NIB Science Club on 10th May, 2026.

❖ Dr. Ratnesh Kumar Sharma, Scientist Grade-I and Head, and Dr. Saurabh Sharma, Scientist Grade-III, participated in a Joint Inspection with CDSCO officials of M/s Intas Pharmaceuticals Ltd., Ahmedabad, Gujarat, from 11th May, 2026 to 12th May, 2026.

❖ Dr. Shikha Yadav, Scientist Grade-I (Vet.), and Head as a Council Member on the Council of Accreditation of AAALAC International for a term of three years from 1st July, 2025 to 30th June, 2028 and attended the deliberations of the meeting of Council of Accreditation and training session at National Harbour, Maryland, USA, from 13th to 18th May, 2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, as an external expert, attended the 50th Technical Advisory Committee (TAC) Meeting of MedTech Mitra virtually held on 20th May ,2026.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, as an expert, attended the virtual meeting on "Clinical Performance Evaluation for New In Vitro Diagnostic Products" held on 23rd May, 2026, organized by CDSCO, New Delhi.

❖ Dr. Gauri Misra, Scientist Grade-I and Head, attended virtually "MHD-20 – Medical Biotechnology & Medical Nanotechnology" as a principal member, held on 29th May, 2026, organized by Bureau of Indian Standards (BIS).

❖ Dr. Gauri Misra, Scientist Grade-I and Head, virtually attended the 51st Technical Advisory Committee (TAC) meeting of MedTech-Mitra on 29th May, 2026, organized by ICMR Hqs.

❖ Dr. Saurabh Sharma, Scientist Grade-III and Dr. Paras Jain, Junior Scientist, participated in a Joint Inspection with CDSCO officials of M/s IPCA Laboratories Ltd. (Bio-Manufacturing Facility), Pithampur, Dhar, for examination, test and Analysis from 18th to 19th June, 2026.

❖ Dr. Suresh Kumar, Scientist Grade-II, attended the Institutional Animal Ethics Committee (IAEC) meeting as the CCSEA nominee (Scientist from outside the Institute) to review research protocols and annual inspection held on 19th June, 2026 at the National Institute of Immunology, New Delhi.

❖ QMU facilitated the on-site surveillance audit of NIB laboratories/units as per ISO/IEC 17025:2017 on 28th June, 2026 by NABL assessor for continuation of accreditation.

❖ The staff of the Blood Products Laboratory (BPL) participated in the 11th Expert Working Group Meeting on Blood and Blood-Related Products, organized by the Indian Pharmacopoeia Commission (IPC), Ghaziabad, through video conferencing (virtual mode) on 30th June, 2026.

EVENTS UNDER ANNUAL CAPACITY BUILDING PLAN 2026-27 FOR NIB OFFICIALS

SADHANA Saptah 2026 Celebrations at NIB: With reference to the directives received from the Ministry of Health & Family Welfare (MoHFW) regarding SĀDHANA Saptah under Mission Karmayogi, observed from 2nd to 8th April, 2026, NIB, Noida, organized various institutional activities, including Samuhik Charcha, webinars, special lectures, and panel discussions, for the regular and contractual staff members of the Institute. The key activities conducted during the SĀDHANA Saptah are detailed below:

❖ Lecture-cum-Interactive Session on "Ethics & Values in Public Governance" held on 2nd April, 2026, governed with an invited talk by Shri Puneet Kumar Sharma, Deputy Director & Coordinator, Institute of Secretariat Training & Management (ISTM), DoPT, Delhi.





❖ Lecture-cum-Interactive Session on "Budget, Finance and Auditing" held on 6th April, 2026, featuring with an invited talk by Dr. N. K. Gautam, Ex- Audit Officer, Ministry of Finance, Govt. of India.

❖ Lecture on "HPV Vaccine: Current Perspectives" held on 7th April, 2026, governed with an invited talk by Dr. (Prof.) Mausumi. Bharadwaj, ICMR Emeritus Scientist, Former Scientist - G, ICMR-National Institute of Cancer Prevention & Research (NICPR), Noida, India.





❖ Lecture-cum-Interactive Session on "Government e-Marketplace (GeM) Processes for equipment purchase" held on 8th April 2026, governed with an invited talk and discussion session by two experts from ICMR Head Office: Dr. Joy Kumar Chakma. Scientist F, Head Central Procurement, ICMR New Delhi and Dr. Swati Allen, Scientist-C. ICMR, New Delhi.

❖ Lecture on "Malaria Elimination in India; Current Perspectives, Challenges & Future Directions" held on 24th April 2026, governed with an invited talk by Dr. Roopa Kumari, Public health expert, and Former National Programme Officer (Malaria & VBD) WHO-SEARO. The said scientific session held to mark the World Malaria Day 2026.





❖ Lecture on "Therapeutic strategies for Dengue virus infection" held on 6th May, 2026, governed with an invited talk by Dr. G. Senthil Kumar, Scientist, National Institute of Immunology, New Delhi (An Autonomous Institute of Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India).

❖ Lecture on "Recent Advancement in Bacterial Endotoxin Testing (BET)" held on 7th May, 2026, governed with a special talk by technical expert from Charles River Laboratories Ltd. The session was conducted as part of Sri Lankan officials ten days training (4th to 15th May, 2026), and involved Lab staff members from three NIB Laboratories including EHL, RPL & STL.



❖ Seminar on "Emerging trends & Global Requirements in Biopharmaceutical Workflows" held on 15th May, 2026, governed with a special talk by technical expert from Thermo Fisher Scientific Pvt. Ltd.

❖ Lecture on "Labour Awareness and Compliance with the New Labour Codes (Labour Rights, Compliance, and Welfare)" held on 2nd June, 2026, governed with an invited talk by Shri Hari Om Gautam, Regional Labour Commissioner, Noida.

❖ Training Workshop on "Good Laboratory Practices (OECD/GLP)" held on 18th June, 2026, governed with an invited technical session by Prof. Bikash Medhi, Professor- Department of Pharmacology, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh.

❖ Two - day Training Programme on "ISO 17034:2016 & NABL Requirements" for nominated 15 Scientific staff members of NIB, held from 16th to 17th June, 2026 in the Conference Hall, NIB. The training programme was conducted with the support of resource persons from the National Accreditation Board for Testing and Calibration Laboratories (NABL).

TRAININGS

❖ NIB scientific and technical staff attended a lecture on "Emerging trends and Global requirements in Biopharmaceuticals workflow" on 15th April, 2026 at NIB, Noida.

❖ NIB conducted a four to six months project work programme for the January to June 2026 session from 06th January, 2026 to 30th June, 2026. The programme was designed for students pursuing M.Sc. in Biotechnology, Biochemistry, Microbiology and M. Pharma. from various universities and institutions. The programme aimed to build up the "National Talent Pool of skilled and trained manpower" and thereby facilitate the objectives of "Make in India" by providing skilled scientific manpower for industry and research endeavours in the field of biologicals and biological products. A total of 21 students participated in the programme. The project work provided students with an opportunity to gain practical exposure to laboratory-based research and quality control activities under the guidance of experienced NIB scientists.

❖ Two - day Capacity Building Programme on "Strengthening Quality-Based Public Procurement System for Biotherapeutics and In-vitro Diagnostic Kits," for 06 Officials of Madhya Pradesh Public Health Services Corporation Limited (MPPHSCL), Bhopal, held on 16th to 17th April 2026 at NIB, Noida. The event involved expert scientific lecture sessions, panel discussions and NIB Laboratories visit.

❖ Ten - day training programme on Sterility Testing and Bacterial Endotoxin Testing in Pharmaceutical Microbiology was conducted for four nominated Pharmaceutical Analysts from the National Medicines Regulatory Authority (NMRA), Sri Lanka, from 04th to 15th May, 2026 at the NIB, Noida. The programme was facilitated by the NIB's Centralized Facility for Sterility Testing, Enzyme and Hormone Laboratory, RPL, and QMU, and comprised technical presentations, demonstrations, and hands-on practical sessions. The training aimed to enhance the participants' knowledge and practical skills in pharmaceutical microbiological testing. The four Sri Lankan participants were Ms. S.P.N. Sandamali Senanayake, Mr. J.K. Gihan Ransara, Ms. D.T.W. Gunasekara, and Mr. H.S.M.





❖ Five-day Training Course on "Cell Culture-Based Techniques for Evaluation of Biologicals and Vaccines" was conducted from 4th to 8th May, 2026 at the Vaccine and Antisera Laboratory (VAL), NIB. A total of six participants, comprising one ICMR Scientist, three Ph.D. Scholars, one Laboratory Technician, and one B.Tech. student, attended the training course. The programme included demonstrations and hands-on practical sessions to provide participants with practical exposure to cell culture-based techniques used in the evaluation of biologicals and vaccines.

❖ Five-day training course entitled "Quality Control of Blood Products using Atomic Absorption Spectrophotometer (AAS)" was provided to an M. Pharm. student from 1st to 5th June, 2026 at Blood Products Laboratory (BPL), NIB. The training comprised demonstration and hands-on practice, providing practical exposure to the application of AAS in the quality control analysis of blood products.

❖ One-day Training Programme for Officials of the r-DNA Division, CDSCO was organized on 9th June, 2026 at NIB. A total of 25 participants, comprising 12 officials from CDSCO and 13 NIB laboratory staff members, participated in the scientific workshop.

❖ Two-day Training programme on "Test analysis of Biomolecules as per Indian Pharmacopoeia" for 3 nominated Laboratory Officials from Central Drugs Testing Laboratory (CDTL) Mumbai, conducted from 11th to 12th June, 2026 in Enzyme and Hormone Laboratory (EHL), NIB. The training comprised of presentation, demonstration and Hands-on practice.

❖ NIB scientific and technical staff attended Half-Day "Training-cum-workshop on Good Laboratory Practices (OECD/GLP)" on 18th June, 2026 at NIB, Noida.

NIB VISIT & INTERACTION WITH LABORATORY STAFF

❖ Half - day laboratory visit of Post Graduate Diploma in Industrial Biotechnology (PGDIB) students from the Regional Centre for Biotechnology (RCB), Faridabad was organized at NIB on 15th April, 2026. A total of 15 participants (14 PGDIB Biotechnology students and 01 industry faculty) visited the laboratory and gained exposure to NIB's laboratory facilities and activities.



❖ Half - day "Stakeholder Meeting on Heparin and Enoxaparin Quality" conducted on 20th May 2026, the representatives from Industry, Manufacturing units, CDSCO, IPC and NIB participated in this even

❖ Meeting of NIB Scientific Team with CDSCO & IPC Experts regarding the Biological Reference Standard development held on 29th May, 2026 at NIB Noida.

PUBLICATIONS

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Please feel free to share your valuable thoughts & feedback for the betterment of the edition. We look forward to hear from you!!!