

BUDAPEST Notification No. 338

BUDAPEST TREATY ON THE INTERNATIONAL
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS
FOR THE PURPOSES OF PATENT PROCEDURE

Communication by the Government of India Relating to the Acquisition of the Status of
International Depositary Authority by the National Agriculturally Important Microbial Culture
Collection (NAIMCC)

The Director General of the World Intellectual Property Organization (WIPO) presents his compliments to the Minister for Foreign Affairs and has the honor to notify the receipt from the Government of India, on December 30, 2019 and June 23, 2020, of written communications, dated December 13, 2019 and June 23, 2020, respectively, relating to the acquisition of the status of International Depositary Authority by the National Agriculturally Important Microbial Culture Collection (NAIMCC), which state that this Depositary Institution is located on the territory of India and include a Declaration of Assurances to the effect that the Institution complies and will continue to comply with the requirements concerning the acquisition of the status of International Depositary Authority specified in Article 6(2) of the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure done at Budapest on April 28, 1977, and amended on September 26, 1980.

Pursuant to Article 7(2)(b), the National Agriculturally Important Microbial Culture Collection (NAIMCC) shall acquire the status of International Depositary Authority under the Budapest Treaty on July 28, 2020, that is, on the date of publication of the communication by the International Bureau.

./ The text of the communication is attached.

This notification will be published on WIPO's website (<http://www.wipo.int/budapest>).

PR

July 15, 2020

Text of the communication by the Government of India relating to the acquisition of the status of International Depository Authority by the National Agriculturally Important Microbial Culture Collection (NAIMCC)

[Original: English]

COMMUNICATION

Kindly find enclosed herewith application for recognition as an International Depository Authority (IDA) under the Budapest Treaty submitted by the National Agriculturally Important Microbial Culture Collection (NAIMCC).

NAIMCC is a unit of the National Bureau of Agriculturally Important Microorganisms (NBAIM), Maunath Bhanjan, Uttar Pradesh, India under the aegis of the Indian Council of Agricultural Research (ICAR) and Department of Agricultural Research and Education (DARE), Government of India, New Delhi. NAIMCC has been recognized as national facility for long term conservation of agriculturally important microbial resources of India.

The application has been duly verified and has been found to be in compliance with the provisions of Article 6 (Status of International Depository Authority) and Article 7 (Acquisition of the Status of International Depository Authority) of the Budapest Treaty.

The application has concurrence of Government of India in the form of assurance that the NAIMCC complies with and shall continue to comply with the requirements specified in Article 6(2) of the aforesaid Treaty.

In view of the above, application by the NAIMCC may kindly be considered for according status of IDA under the Budapest Treaty. It is further indicated that date of recognition of the institute as an IDA shall be the date of publication by the International Bureau as per Article 7 of the Budapest Treaty.

ANNEX

1. Name and Address

National Agriculturally Important Microbial Culture Collection (NAIMCC)
ICAR-National Bureau of Agriculturally Important Microorganisms
Village: Kushmaur
District: Maunath Bhanjan PIN 275 103
State: Uttar Pradesh
Country: India
Telephone: +91 547- 2530080
Facsimile: +91 547- 2530381
E-mail: director.nbaim@icar.gov.in
Website: <http://www.nbaim.org.in>

2. Legal Status

National Agriculturally Important Microbial Culture Collection (NAIMCC), a unit of the ICAR-National Bureau of Agriculturally Important Microorganisms, Maunath Bhanjan, Uttar Pradesh, India, is working under the aegis of Indian Council of Agriculture Research (ICAR) and Department of Agricultural Research and Education (DARE), Government of India, New Delhi and has been recognized as national facility for long-term conservation of agriculturally important microbial resources of India. ICAR- National Bureau of Agriculturally Important Microorganisms (ICAR-NBAIM) is hereby submitting the application through ICAR, Government of India to be designated NAIMCC as an International Depository Authority (IDA), under the provisions of Budapest Treaty.

ICAR-NBAIM was established in Old Building of ICAR-National Bureau of Plant Genetic Resources, New Delhi, by the Council in the IXth Five Year Plan. The ICAR-NBAIM started functioning at present location, Kushmaur, Mau Nath Bhanjan, Uttar Pradesh from 2004. During the XIth plan, ICAR-NBAIM was designated as a National Designated Repository under the Biological Diversity Act (2002) for conservation of agriculturally important microbial wealth in India. The Bureau had acquired ISO 9001: 2008 certification in 2014. It is among one of the premier organizations of agricultural and microbial biotechnology prioritizing its responsibilities in the area of collection, isolation, conservation, management and utilization of agriculturally important microorganisms (AIMs) of the country. The Bureau is engaged in the multifarious activities in the area of microbial diversity, biological control, microbial genomics, preservation and maintenance of microbial cultures. The Bureau is also engaged in supply of pure cultures to various research organizations and provides microbial identification services. In 2008, Microbial Genomic Resource Repository (MGRR) was added to ICAR NBAIM. MGRR is a facility that preserves the genetic materials of the agriculturally important microorganisms, maintained in selected hosts or cloned and maintained in plasmids, accompanying the data details. This new organizational structure indicates the high importance and visibility that ICAR-NBAIM places on our role as custodians of microorganisms and its related genetic resources. MGRR maintains genetic materials like, DNA/RNA, plasmids, vectors, clones etc.

ICAR-NBAIM functions under the administrative control of the Crop Sciences (CS) Division of the ICAR. The mandate of the ICAR-NBAIM is "to act as the nodal Institute at national level for acquisition and management of indigenous and exotic microbial genetic resources for food and agriculture, and to carry out related research and human resource development for sustainable growth of agriculture".

The NAIMCC started functioning in 2001 as a national collection for agriculturally important microorganisms (AIMs). The Ministry of Agriculture and Farmers' Welfare, Government of India has assured its continuous existence and funding through Indian Council of Agricultural Research. NAIMCC, an affiliate member of WFCC, is registered with World Data Centre for Microorganisms (WDCM) with Reg. No.1060 since 2014.

Currently, NAIMCC holds 6497 AIMS including 2423 bacteria including actinomycetes, 3828 fungi and 246 cyanobacteria. Some agriculturally important bacteria, fungi, actinomycetes and cyanobacteria belonging to many genera, namely, *Achromobacter*, *Acinetobacter*, *Azospirillum*, *Azotobacter*, *Bacillus*, *Brevibacillus*, *Enterobacter*, *Kluyvera*, *Kocuria*, *Lysinibacillus*, *Microbacterium*, *Micrococcus*, *Ochrobacterium*, *Paenibacillus*, *Pantoea*, *Penicillium*, *Planococcus*, *Pseudomonas*, *Ralstonia*, *Raoutella*, *Rhizobium*, *Stenotrophomonas*, *Streptomyces*, *Alternaria*, *Aspergillus*, *Beuveria*, *Colletotricum*, *Coprinopsis*, *Fusarium*, *Irpex*, *Macrophomina*, *Metarhizium*, *Paecilomyces*, *Pleurotus*, *Rhizoctonia*, *Schizophyllum*, *Sclerotium*, *Sclerotinia*, *Trichoderma*, *Verticillium*, *Nostoc*, *Anabaena*, *Calothrix*, *Phormidium*, *Plectonema* etc are available in NAIMCC. To enrich

holdings of NAIMCC, ICAR-NBAIM is operating a mega-network project as nodal unit on Application of Microorganisms in Agriculture and Allied Sectors (AMAAS) at 34 centres across the country.

NAIMCC is working in accordance with directives/guidelines of ICAR & DARE (<http://www.nbaindia.org>), Government of India for access and benefit sharing of cultures. ICAR-NBAIM through NAIMCC is giving input to Government of India on various aspects of microbial genetic resources relating to Convention on Biological Diversity (CBD) and Commission on Genetic Resources for Food and Agriculture (CGFRA). Most of the cultures of the NAIMCC have been digitized using software, Microbial Culture Collection Database (MCCD), by the Bureau to enlist the characteristics of AIMS in terms of origin, ecology, morphology, physiology and biochemical parameters, pathogenic or non-pathogenic nature for easy retrieval of information about the microbial cultures. This software has been developed for rapid searches and also provides an interactive interface between database and the user. Molecular tools are also being used for the characterization of AIMS. There is an inbuilt provision to include a variety of data related to isolates that can be accommodated in the passport data sheet such as geographical location of isolation, name of the donor (person or institute) or depositor, forms of preservation etc.

Microbial Genetic Resource (MGR) Portal (www.mgrportal.org.in) has been launched by NAIMCC, ICAR-NBAIM. It has a user-friendly database search options where scientists, researchers and other users can have access to the information on microbial cultures available at NAIMCC. In the past, two catalogues were published in 2009 and 2011 by the ICAR-NBAIM, Mau with total holdings of 3842 in 2011. Later in 2014, a detailed information was brought out as a 'Catalogue of Microbial Cultures: Supplement-2014' where in the number of accessioned microorganisms was 5028 including bacteria and actinomycetes (1766), fungi (3137) and cyanobacteria (125). In addition, some literatures in the various forms pertinent to NAIMCC have been published in 2015 onwards in order to disseminate knowledge of NAIMCC.

3. Equipment, Facilities, Services, Safety and Security

In accordance with Article 6(2)(ii) of the Budapest Treaty, NAIMCC has all necessary support to perform its scientific and administrative tasks. NAIMCC is a constituent unit and under administrative control of ICAR-NBAIM, Maunath Bhanjan and placed in a campus of 65 acres land. In consistent with Rule 2.2 of the Regulations, the NAIMCC has sufficient facilities for the maintenance and long-term preservation of microorganisms of agricultural importance. The NAIMCC is spacious and supported with all kind of equipment like general microscopes, fluorescent microscope, stereomicroscope, confocal laser microscope, scanning electron microscope, HPLC, GC, PCR, gel documentation systems, ABI sequencer, high performance computing facilities, - 80 degrees Celsius deep freezers etc. to perform all kinds of research work including microbial taxonomic research. NAIMCC has two liquid nitrogen generators for production of liquid nitrogen for cryopreservation of microbial cultures and also to provide liquid nitrogen for other research work. Four freeze dryers are available in NAIMCC for lyophilization of the microbial cultures. Most of the equipment are fitted with alarm system so that their function can be monitored time-to-time. The entire NAIMCC is fitted with air conditioners in order to maintain congenial working conditions.

At present, NAIMCC has approximately 6500 cultures of bacteria, cyanobacteria, actinomycetes and fungi and are being preserved by short- and long-term methods such as active culture, glycerol stock, mineral oil, freeze drying and cryopreservation so as to protect microbial gene pool. For safety purpose, alternate stocks of the cultures are being maintained at distant location in the premises of ICAR-National Bureau of Plant Genetic Resources, New Delhi, to avoid loss of cultures under any unforeseen situations. The

NAIMCC has 24-hours power supply back up for continuous operation of all the systems housed in NAIMCC. Proper supply to the instruments and other systems are being maintained by online and offline UPS. The NAIMCC also have other infrastructure like low temperature walk-In chamber (01) for keeping lyophilized vials of cultures for long-term storage, cold rooms (03) for maintaining cultures in active growth phase, rooms for storage of chemicals and glasswares, washing area and autoclave room for smooth operation of NAIMCC. Besides, NAIMCC has large laboratory working areas for routine work and documentation of data pertaining to culture collection.

Currently, NAIMCC is providing following services to cater the need of all stakeholders:

- (a) Accessioning of microbial cultures deposited by different researchers of the country under "general deposit" / "open deposit", "safe deposit" and "deposit for registration".
- (b) Services for safe deposit of cultures are being extended to researchers and private partners to develop microbe-based product for commercial purposes.
- (c) In the line of registration of plant germplasm, NAIMCC is also extending services for registration of elite microbes having commercial or biotechnological or agricultural potential.
- (d) Microbial cultures for research, academic, teaching and for commercial purposes are being supplied to all stakeholders. During last five years, NAIMCC has supplied approximately 700 cultures to public and private sectors for research purpose only and earned approximately 10 lakhs.
- (e) Centre for Agriculture Bioinformatics (CABin), a unit of ICAR-NBAIM, facilitating computation of huge data through High Performance Facility (HPC) comprising 16 node Linux clusters with each of 96 GB with total storage of 126 TB connected with three workstations.
- (f) ICAR-NBAIM through NAIMCC is facilitating services for identification of cultures received from industry and researchers for research purpose and for registration of microbial biopesticides for commercialization in compliance with Department of Plant Protection, Quarantine and Storage (DPPQ&S), Faridabad, India (<http://www.ppqqs.gov.in>). ICAR-NBAIM is a nodal agency designated by Central Insecticides Board and Registration Committee (CIB&RC) for developing DNA fingerprints of microbial cultures to be registered as biopesticides and safe upkeep of registered microbes in NAIMCC for future reference.
- (g) NAIMCC is facilitating DPPQ&S for import of cultures from abroad by Indian stakeholders for research and commercial purpose.
- (h) Facilitating development of carrier based and liquid bioformulations for purpose of biofertilization, biotic- and abiotic-stress management and biocontrol of pests. A mobile application "Micro Mitra" enlisting microbe-based technologies with mode of application, benefit and cost of each technology (<https://icar.org.in/content/micro-mitra>) has been developed and is in public domain.
- (i) Services of other types such as high computation, SEM imaging, confocal imaging and analyses of biomolecules using HPLC are being provided to all the research workers.

(j) NAIMCC is also conducting trainings and educational programme for dissemination of knowledge to the all sectors of the societies for creating awareness of microbial biodiversity of India and globe.

4. Facilities for Storage of Cultures for Patent Procedure under IDA

For maintaining confidentiality and ensuring the security of deposited cultures, special provision has been made within premises of NAIMCC block. Independent self-sufficient laboratory facilities have been allocated for processing of cultures for deposit of cultures in safe custody. The entire NAIMCC is under electronic surveillance with motion sensor and CCTV camera and biometric access control. Separate chambers/cabinet systems have been developed for preservation of cultures in order to protect cultures from malicious use and also prevent escape to cultures in the environment. For biosafety angle, all the cultures are being handled following good laboratory practices.

Other infrastructure like guest house, hostels for housing staff and research scholars, library, cafeteria, transport and seminar hall are present in the Bureau. The office of ICAR-NBAIM has three units, namely, administration, finance and account and stores to provide necessary resources for operation of NAIMCC.

5. Scientific and Technical Staff

In accordance with Article 6 (2) of the Budapest Treaty, the NAIMCC has competent staff to perform its scientific and administrative tasks. NAIMCC, a unit of ICAR-NBAIM, Mau, is under administrative control of the Director who is monitoring body of the collections followed by an officer in-charge/focal point of NAIMCC as per guidelines of National Biodiversity Authority (NBA), Government of India (<http://www.nbaindia.org>) and a team of 20 scientists of the Bureau acting as curators for different group of microorganisms handled for accessioning. There are two dedicated technical staff and one supporting staff to perform all day to day work of NAIMCC, including documentation. The NAIMCC is also supported by a number of research scholars and other contractual support for carrying out research on isolation, characterization and preservation of different groups of microorganisms.

The staffs associated with NAIMCC are experts in the following areas:

- (a) Exploration of unexplored areas for collection of microorganisms;
- (b) Isolation and characterization of microorganisms recovered from different niches of the country;
- (c) Preservation of different groups of microorganisms by short and long term methods for long term conservation and distribution to researchers;
- (d) Taxonomic study of microbial groups;
- (e) Capacity building in the frontier areas of microbiology;
- (f) Developing microbe based technologies for enhancing agricultural productivity;
- (g) Administrative acumen for performing work of deposit and supply of cultures;
- (h) Suggesting FAO and CBD on plan for management of microbial diversity for the purpose of food and agriculture.

6. Types of Microorganisms Accepted for Deposit

The NAIMCC receive for long-term deposit of microorganisms for agricultural, forestry, environmental, biotechnological and industrial use. More specifically, NAIMCC is/will accept for deposit of bacteria, actinomycetes, fungi (moulds, filamentous fungi, yeast, higher fungi) and cyanobacteria of BSL-1 and BSL-2 levels by means of sub-culturing, freeze drying and cryopreservation. It also accepts microorganisms of veterinary and dairy origin of BSL-1 and BSL-2 categories as per NIH Guidelines (<http://www4.od.nih.gov/oba>, page 35 onwards of NIH_Gulnes_Ink_2002_Recomoinant.pdf). Apart from microorganisms, MGRR accepts genetic materials like, DNA/RNA, plasmids, vectors, clones etc. of microbial origin. The import of cultures of microorganisms from outside India may require import clearance from DPPQ&S and NBA (<http://WWW.v.ppq.gov.in>; <http://www.nbaindia.org>). The depositors from abroad should communicate with NAIMCC/ICAR-NBAIM regarding such deposits before dispatch of cultures. NAIMCC is also accepting microorganisms pathogenic to plants, antagonists of phytopathogens, entamopathogens, nematophagous fungi, plant endophytes, bioremediators and microorganisms producing hydrolytic enzymes for agricultural and industrial use.

The NAIMCC reserves it rights to refuse a deposit of microbial material whose conservation involves hazards or received in bad conditions or too difficult to handle or restricted from import by Indian Law.

7. Official Languages

In accordance with Rule 3.1(b)(v) of the Regulations under Budapest Treaty, the official languages are English and Hindi or Bilingual.

8. Technical Requirements and Procedures

In general, NAIMCC accepts only strains that may be cultivated and preserved under technically feasible conditions. However, NAIMCC does not accept any microorganisms pathogenic to humans and animals.

In accordance with Rule 6.3(a) of the Regulations under the Budapest Treaty, NAIMCC will accept microorganisms that would meet the following requirements:

- The microorganisms must be deposited in active or preserved forms and quantity necessary to fulfil the requirements of the Regulations under the Budapest Treaty. The deposited cultures should be pure without any contamination and deposited as lyophilized vial or active cultures. The NAIMCC will generally take six to eight weeks for viability test depending upon growth of cultures.
- The requisite form developed by NAIMCC is needed to be completed by the depositor. Different forms such as BP/1, BP/4, BP/7, BP/8, BP/9, BP/14 would be used by the depositor and NAIMCC in accordance with Budapest Treaty.
- The written statement referred to in Rule 6.1(a) or 6.2(a) of the Regulations under the Budapest Treaty must be drafted correctly either in English or Hindi or bilingual as mentioned in section 7, above.
- The fee must be paid in accordance with Rule 12.1(a) of the Regulations under the Budapest Treaty.

- The depositor must obtain necessary permission for transportation and deposit as per applicable law.
- The depositor must sign document pertinent to "Patent Deposit" contracted with NAIMCC defining the liabilities of party.

In accordance with the Regulations under the Budapest Treaty, NAIMCC will:

- Verify the viability of each deposit and store it.
- Issue receipt, viability statement and other requisite official notice.
- Confirm to the secrecy required by Rule 9.2 of the Regulations under the Budapest Treaty.
- Furnish the samples under the conditions as per procedure provided in the Rule 11 of the Regulations under the Budapest Treaty.

9. Schedule of Fees

Microbial and genetic materials	Indian Rupees
(a) Storage under Rule 12.1(a)(i)	20,000
(b) Conversion of a deposit from non-Budapest Treaty to a deposit in Budapest Treaty	20,000
(c) Prolongation of the duration of the storage over the one provided by Rule 9 of the Regulations under Budapest Treaty	