

## **GUIDELINE FOR DEPOSIT/OBTAIN OF FUNGAL CULTURES**

Culture Collection Center is playing an important role in preservation of microorganisms and represent living sources for biotechnological research and application all over the world. The center maintains information about a culture including its use, if any, and the source of its isolation. National Culture Collection of Pathogenic Fungi(NCCPF), PGIMER, Chandigarh, India maintains nearly 3500 clinical isolates. This is the largest culture collection of medically important fungi in India.

### **Strains that are/will be maintained**

- i. Only fungal strains causing human or animal infection (clinical and environmental isolates) will be maintained. For environmental isolates, only when similar species are known to cause human infection, may be maintained.
- ii. Isolates collected in the research or clinical laboratory will not automatically qualify for strain maintenance. To qualify for strains maintenance the following characters would be look for
  - a. Geographical location
  - b. Site of isolation
  - c. Isolates from clinical groups of patients like HIV infection, transplant group, different malignancy
  - d. Isolates from outbreaks
  - e. Biochemical characters
  - f. Morphological character
  - g. Serotypes
  - h. Mating type
  - i. Molecular types etc.
- iii. Not more than five strains from a single species with same characters as mentioned above will be maintained.
- iv. Any unique strain isolated for the first time will automatically qualify for strain maintenance.
- v. Patented cultures as well as genetically manipulated strains will be maintained. Accessibility of such strains will be for depositors only or with the permission of the depositor.

- vi. For any other reason for strain maintenance, the depositors have to justify the reasons for his or her request. The Curator has the authority to take the final decision.
- vii. The culture collection laboratory will authenticate any strain before accession.
- viii. It is expected that around 500 new isolates will be added every year in the culture collection laboratory.

## **REQUIREMENTS FOR DEPOSIT OF CULTURES:**

### **1. Types of microorganisms accepted as deposits**

NCCPF accepts all pathogenic yeasts and mycelial fungi known to cause infections in humans and animals. Genetically-manipulated strains of pathogenic fungi are also accepted. NCCPF reserves the right to refuse acceptance of a deposit. Deposit of fungi from other countries is accepted only if when we get it cleared from the Health Ministry's Steering Committee (HMSC) of India. The deposited cultures are preserved in 15% glycerol at -70 °C, in liquid nitrogen and by freeze-drying.

### **2. Types of deposits**

#### **i. Open-access deposits**

The cultures deposited under this category are available in the public domain, and can be supplied to the requesting party after submission of the appropriate fee.

#### **ii. Safe deposits**

These cultures are handled with confidentiality and are kept under security. Only the depositor has access to these cultures. The cost of maintaining the culture will be charged to the depositor at the end of each year. The deposited cultures are preserved in NCCPF by methods known to maintain the viability of microbes for a long time. However, NCCPF will not take any responsibility if a deposited culture becomes non-viable or is destroyed during storage. It is the responsibility of the depositor to replace such a strain by a viable culture.

An agreement needs to be signed between the depositor and the NCCPF.

### **3. Technical requirements and procedure**

#### **i. Form and Quantity**

Cultures for deposit should be pure (uncontaminated) and should be sent as two active cultures (on slants). The deposit should be accompanied by appropriate

forms duly completed by the depositor. These forms can be downloaded from the website or may be obtained from NCCPF.

#### **ii. Viability testing and maintenance**

Viability testing of fungi usually requires 7 days to 4 weeks. The viability of cultures submitted to NCCPF is tested as early as possible after the deposit. After processing of a strain by the NCCPF, one freeze-dried (lyophilized) ampoules of the strain is sent to the depositor. In case of a request in the future, the depositor may request for the same strain once on free of cost basis. The deposited cultures are preserved in NCCPF by methods known to maintain the viability of microbes for a long time. However, if a deposited culture becomes non-viable or is destroyed during storage, the depositor needs to replace it by a viable culture.

#### **iii. Renewal of stocks**

As and when necessary, NCCPF may prepare new batches of lyophilized and frozen cultures.

### **4. Administrative requirements and procedures**

#### **i. Language**

The language of communication with the NCCPF and forms is in English.

#### **ii. Import and / or Quarantine Regulations**

Cultures of microorganisms from outside India may require import clearance and/or need to be subjected to quarantine regulations. The depositor should communicate with the NCCPF regarding such deposits before dispatching the cultures.

#### **iii. Documents required from the depositor**

The depositor should contact NCCPF before dispatching the cultures. A duly completed appropriate form, available on NCCPF website, should be submitted with the deposit. The source of the culture, a brief history of its isolation, the person responsible for the culture, his/her affiliation, email address along with the mobile number and the institute of the depositor should be clearly mentioned in the submitted forms.

#### **iv. Official notification to the depositor**

The culture once received is acknowledged. Further the NCCPF accession number is issued to the depositor once the strain deposition procedures are completed.

#### **v. Right to redistribute**

The NCCPF reserves all rights to sub-culture and redistribute the deposited strains (except under safe deposit) to third parties for scientific research.

#### **vi. Cataloguing of Deposits**

Cultures deposited to the NCCPF under open-access category are published in its catalogue (printed or electronic) and displayed on internet.

#### **vii. Fee Structure**

- For culture deposit in the public domain - no fee is levied.
- For safe deposits an annual maintenance charge of Rs.5000/- needs to be paid by the depositor at the end of each year (as per the terms and conditions for safe deposits in the agreement).
- If the depositor is unable to pay the annual maintenance charge, the Curator has full authority to either move the strain to the public domain or to destroy it, depending upon the type and characters of the strain.

**For supply of culture - Please see in the later section.**

### **GUIDANCE TO DEPOSITORS:**

The NCCPF will be happy to provide written notes or advice to the prospective depositors.

### **STEPS INVOLVED IN THE DEPOSIT PROCESS**

1. Prospective depositor contacts the NCCPF by email/post about the acceptability of the culture before sending.
2. Once accepted by the NCCPF the culture along with the properly filled forms are sent to the NCCPF by the depositor.
3. The cultures are processed (usually within two working days) for checking viability, purity and identity. Viability testing of fungi usually requires 7 days to 4 weeks.
4. If the culture is not pure or non-viable, the depositor is informed immediately.
5. Pure, viable and identified cultures are assigned an accession number by the NCCPF and preserved in 15% glycerol at -70 °C, by freeze-drying and in liquid nitrogen.

6. Letter of acceptance and NCCPF accession number are sent to the depositor.
7. The samples are supplied according to regulations.

#### **GUIDELINES FOR SENDING CULTURES TO NCCPF:**

1. All cultures should be sent on slants made in 5ml screw capped plastic tubes/vials.
2. Avoid using glass tubes/vials and petri plates for shipping cultures.
3. Cultures should be checked for any contamination with other fungi, bacteria, mites etc. before sending them to NCCPF.
4. The tubes/vials containing the cultures should be wrapped with layers of cotton/bubble pack and then placed inside a hard cardboard box labeled with biohazard sign.
5. Any broken or damaged tubes/vials would be discarded and the depositor will be informed accordingly.
6. Senders of cultures are solely responsible for any accident/mishap during transit of the cultures to NCCPF.

#### **REQUIREMENT FOR OBTAINING CULTURES FROM THE CULTURE COLLECTION:**

1. Cultures deposited in the public domain and listed in NCCPF catalogue are available for purchase.
2. Cultures are not sent to private addresses.
3. NCCPF has every right to deny any request for obtaining cultures especially when requested a hazardous culture (eg. *Histoplasma capsulatum*, *Coccidioides immitis* etc.)
4. For obtaining cultures from NCCPF, a duly completed application forms and necessary fee should be sent to the Curator. The form can be downloaded from the website or may be obtained from NCCPF.
5. For hazardous fungi, the requesting party has to provide a letter from the head of the institution and head of the department certifying that the appropriate facility (Class II Biosafety cabinet) is available in their institute and the investigator(s) has expertise in safe handling of such cultures. Request for cultures from outside India has to provide an import permit for the procurement, if required, after clearance from the HMSC, India.

6. The cultures are generally dispatched by registered mail within two weeks after receiving a request.

### **Terms and conditions of supply**

1. Recipients of NCCPF cultures should not pass on such cultures as NCCPF cultures to others. Every recipient of cultures needs to sign a 'Material Transfer Agreement' (MTA).
2. All culture should be handled carefully taking proper and established safety precautions.
3. NCCPF is not responsible for misuse or improper handling of cultures received from NCCPF.
4. Purity, authenticity and viability of cultures are carefully examined by NCCPF staff.
5. Complaints about the cultures are entertained within two months of the receipt of the culture by the requesting party.