

PUNE'S NATIONAL CENTRE FOR CELL SCIENCE TO COLLECT, STUDY MULTIDRUG-RESISTANT BUGS

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The bio-repository will receive, store, preserve and characterise these microbes.

The Pune-based National Centre for Cell Science (NCCS) is set to become a repository of multidrug-resistant bacteria and fungi from across the country.

On September 25, the Department of Biotechnology (DBT) authorised the National Centre for Microbial Resource (NCMR) at NCCS to function as a bio-repository for multidrug-resistant microbes/infective agents. The bio-repository will receive, store, maintain, preserve and characterise these microbes.

The notification said that the NCMR would take necessary steps to facilitate clinicians, scientists and others to handle multidrug-resistant microbe samples.

Currently, the National Centre for Disease Control and the Indian Council of Medical Research carry out anti-microbial resistance surveillance in various geographical regions and settings. But these two bodies only collect data and not microbe samples.

In 2007, in collaboration with nine institutes, the DBT collected 1,50,000 microbes from the natural environment, and these are housed at NCCS.

“While none of the microbes collected in 2007 is drug-resistant or disease-causing, it has now been decided to extend our mandate to include multidrug-resistant microbes,” Dr. Yogesh Shouche of NCCS and in-charge of the bio-repository said. Accordingly, the DBT has informed all medical colleges, hospitals and research institutions to deposit samples of drug-resistant microbes with the repository.

“So far we have not received any samples. On October 12, we will frame the guidelines for deposition and distribution of drug-resistant microbes. While we are clear that we will be accepting only multidrug-resistant microbes, we will decide microbes resistance to which antibiotics should be accepted. Once the guidelines are approved by the DBT, we will start accepting samples,” Dr Shouche said.

Multidrug-resistant microbes received from different settings in the same city and from other across the country will help shed light on the spread and resistance pattern of these microbes.

“After a few years of collecting samples from across the country we will know how multidrug-resistant microbes spread and how they evolve with time,” he said.

Since antibiotics are widely used in livestock and poultry as growth promoters, particularly in poultry, the NCMR hopes veterinary hospitals will also share samples from livestock where antibiotics are used as a growth promoter. Besides livestock, Antibiotics are also widely used in aquaculture.

“Sharing of samples is voluntary and it depends on the willingness of institutions to do so. We will be taking steps to encourage and support sample collection and sharing. Slowly, we may start collecting samples ourselves,” Dr Shouche said. He does not rule out the possibility of the

DBT making all researchers who receive funding, compulsorily share samples with the NCMR.

There is currently no large-scale research undertaken to study the presence and spread of different multidrug-resistant microbes. A few small studies have found these bacteria resistant to multiple antibiotics and even the last-resort antibiotics in fish, meat and vegetable samples collected from farms, shops, environment and households.

NCCS plans to study the samples collected at the repository to develop new antibiotics and anti-fungals and test the effectiveness of new drugs.

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