

SCIENTIFIC AND TECHNICAL offer

Microbial contamination

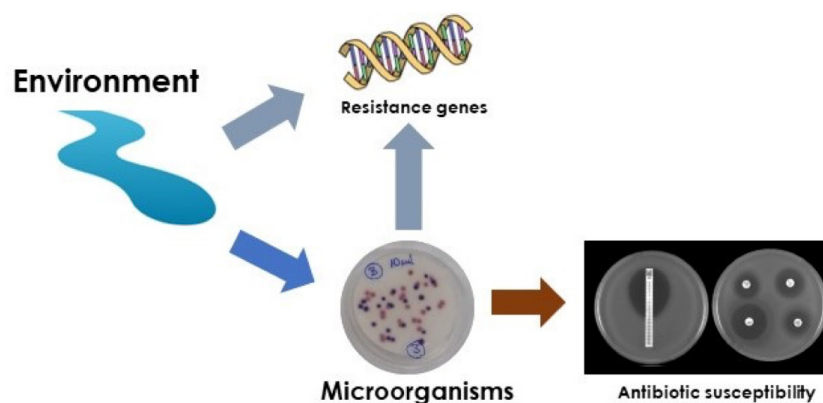
DESCRIPTION

The microorganisms are found naturally in the environment. However, the abundance of certain harmful microorganisms, such as pathogens and antibiotic resistant bacteria, are a contamination of the environment. In the case of water, this kind of contamination endangers its quality, and may not be suitable for certain uses, since its use would pose a health risk. The microbial composition of water can be altered because of external contamination, such as the release of untreated and/or treated wastewater, both the release of harmful microorganisms and chemical compounds that alter its composition. This is the case of antibiotics, whose presence can allow the appearance of antibiotic resistant bacteria, also reducing the susceptible population.

IMDEA WATER SOLUTIONS

At IMDEA Water we analyze the presence of microorganisms with low susceptibility to several antibiotics in environmental samples. For this we carry out:

- Isolation of antibiotic resistant microorganisms
- Isolation of microorganisms of interest and then susceptibility assays (antibiograms)
- Development of procedures for the detection of antibiotic resistance genes by molecular biology (PCR) in total samples or in isolated microorganisms



IMPLEMENTATION SECTOR

- Wastewater treatment plants (WWTPs).
- Environmental consulting companies.
- Companies interested in studies of microbiological contamination in the environment.
- Companies and/or agricultural exploitation, interested in knowing the state of the environmental resources used and their possible effect on production.
- Companies and/or livestock farming, interested in knowing the effect of their economic activity on the environment.
- Companies/groups interested in the study of susceptibility of compound using model microorganisms.

ADDITIONAL INFORMATION

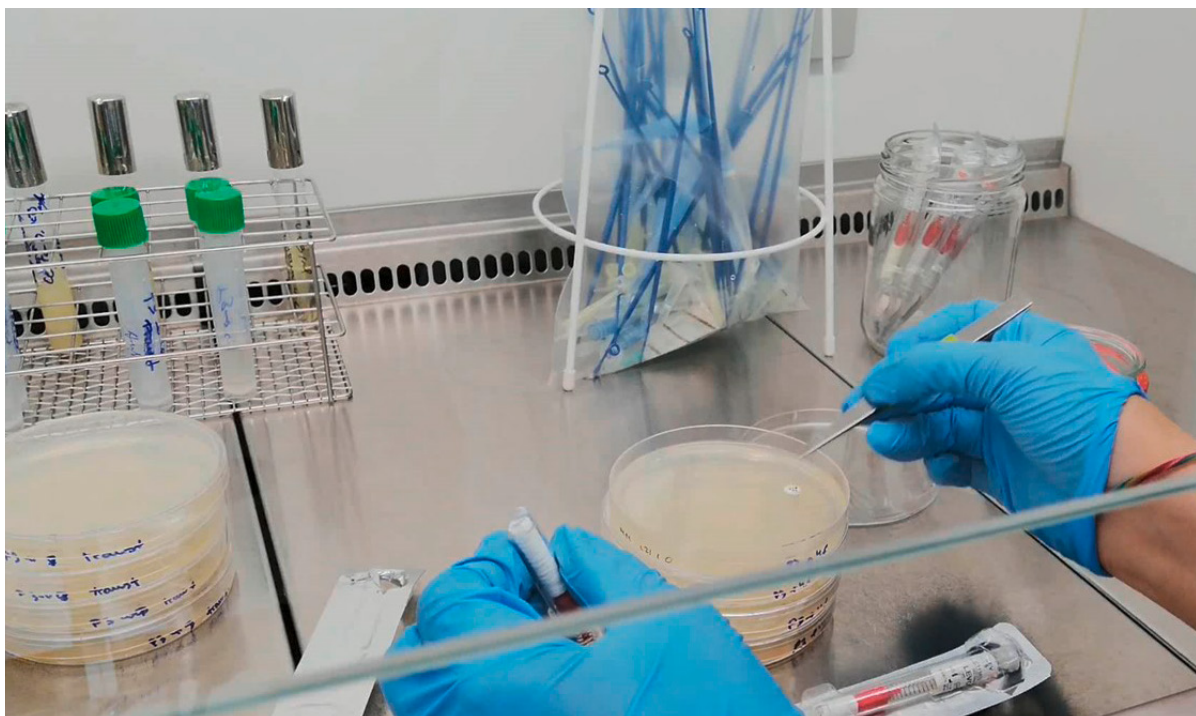
<https://water.imdea.org/research/research-groups/ecotoxicology-and-microbial-contamination/>

KEYWORDS

Antibiotic resistant bacteria, antibiotic resistance genes, antibiograms, PCR

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