

Technology Offer

CSIC/RB/012

Device for capturing and identifying biological organisms in airborne



This device provides a suitable method for the capture, detection and identification of whole airborne biological particles, including viruses (such as SARS-CoV-2) and other pathogens.

Intellectual Property

Spanish Utility model granted

Stage of development

Technology validated in a real environment

Intended Collaboration

Licensing and/or co-development

Contact

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Market need

Air pollution is a major environmental risk to public health as it transports biological particles containing archaea, bacteria, viruses, fungi and pollen grains. The study of airborne biota is relevant for its potential role in the spread of plant, animal and human diseases, with important implications for public health, and a huge economic impact on agricultural and livestock productivity.



Proposed solution

An equipment consisting of a filtering device connected to a vacuum pump, that it is capable of capturing airborne biological particles, subsequently allowing complete genomic sequencing of the captured biological organisms, amplifying genomes by gene amplification methods or sequencing DNA and RNA genomes present in viral particles, which are previously purified through the filtering device.

Competitive advantages

- This method allows complete genomic sequencing of microorganisms captured on filters
- More efficient, at lower cost and with a lower pressure drop than PTFE filters known.
- Useful for monitoring the presence of these microorganisms in educational centers, hospitals, means of transport, farms and other places where it is necessary to control these pathogens.