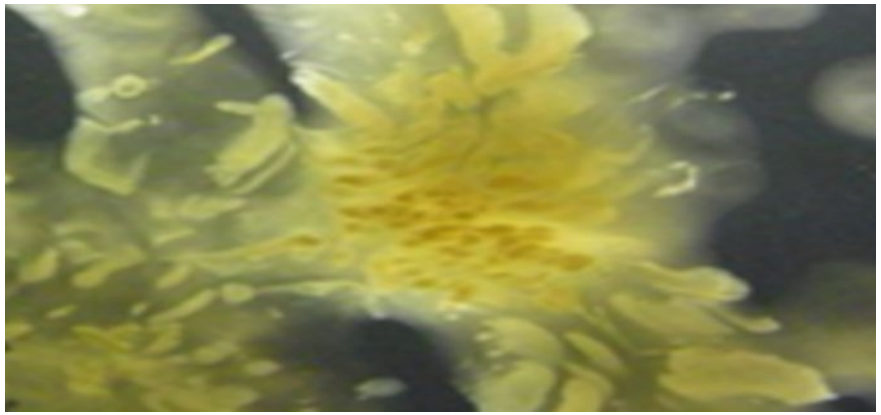
Technological Offer CSIC/IM/071

Immunoassay for detection of *Pseudomonas aeruginosa* infections



Immunochemical method for diagnosis of infections produced by *Pseudomonas aeruginosa* targeting the main signalling molecules of the pqs Quorum Sensing system. The immunoassay is fast and efficient, with low LOD and adaptable to point-of-care devices.

Intellectual Property
Patent filed in USA and Europe

Intended Collaboration
Licencia y/o codesarrollo

Stage of Development
Tested in isolated samples of patients suffering from cystic fibrosis.

Differentiation between the acute and chronic phase of the infection.

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Market need

Pseudomonas aeruginosa is an opportunistic pathogen responsible for a huge number of infections, especially in immunocompromised patients, and extremely life-threatening if not appropriately diagnosed and treated at early stage.

Traditional microbiology tests may take 24-48h to determine the causative agent of an infection. Other methods, such as PCR, although faster require highly trained staff and expensive equipment only available in specialized facilities. These facts result in prescription and misuse of broad-spectra antibiotics, contributing to resistance generation.

CSIC solution

The close connection between the release of signalling molecules of the P. aeruginosa Quorum Sensing (QS) and the virulence of infection make these molecules good biomarkers for detection of infections caused by P. aeruginosa.

Presented here is the first in vitro immunodiagnostic ELISA test for identification and quantification of the main signalling molecules from the pqs QS system (PQS, HHQ and HQNO alkylquinolones).

Competitive advantages

- Robust, highly sensitive, specific, accurate, low-cost, simple and rapid (less than 1h) ELISA test for clinical samples analysis.
- Quantifiable in the low nM range, even in complex clinical samples.
- Suitable for point-of-care (PoC) analysis in different analytical configurations (strip test, immunosensors, etc).