

## METHOD FOR THE DETECTION AND FAST DIAGNOSIS OF STAPHYLOCOCCUS AUREUS

### Patient need addressed

Infection of *staphylococcus aureus*

### The Solution

The present invention describes a biosensor for the detection and/or diagnosis of *staphylococcus aureus* that solves the problems of the devices and methods of the state of the art.

This innovative technology allows a fast and easy detection of the pathogen with a high level of sensitivity and selectivity. Based on this biosensor, a detection method and a method of diagnosing diseases caused by said pathogenic bacteria have also been developed.

### Innovative Aspects

The biosensor is based on a porous material that comprises an indicator and aptamers that specifically recognize the *staphylococcus aureus*. When the pathogen is present in the medium, the aptamers recognize this bacterium, bind to it, and the release of an indicator by which it can be detected occurs.

The biosensor has high sensitivity and reliability.

No specialized personnel are required, this is a simple method of detection by direct visual observation of the medium. Detection and / or quantification of diagnosis are carried out in one hour, reducing the time of tests used routinely.

The in vitro diagnostic method developed is suitable for detecting and/or quantifying *staphylococcus aureus* in samples from subjects infected with the pathogen. Subjects are human, but can also be animals, preferably mammals.

Clinical samples suitable for the use of the invention are: cellular tissues, faecal material, and body fluids, such as blood, urine, saliva, serum and pleural fluid, peritoneal fluid, synovial fluid, and cerebrospinal fluid.

A Kit has been prepared comprising biosensor, buffers, delivery vehicles, material supports, positive and/or negative control components, and use instructions.

**Stage of Development:** Validation of the lab prototype and ready for clinical validation

### Intellectual Property

Spanish patent application (Priority date: April 27, 2020)

Suitable for international extension (PCT application)

### Aims

Available for  
Licensing or Assignment



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