Kit to predict the risk of infection after a heart attack or major surgery

A test based on the detection and quantification of a biomarker in a biological sample that predicts the risk of developing an infectious disease in a patient who has suffered a myocardial infarction or has undergone major surgery.

Description and essential characteristics

This kit predicts the risk of developing an infectious disease after a myocardial infarction or major surgery, thus enabling the design of personalised and prompt treatment for the patient. The kit is based on the detection and quantification of a specific biomarker in a biological sample isolated from the patient, and makes it possible to predict which patients are predisposed to infection, thus promoting simultaneously the prevention of septicaemia.

The technology is based on published research by this group showing that the presence of a specific substance (biomarker) in a biological sample is associated with a state of tolerance to infections (or a refractory state), and also on the relationship between the patient's immunologic refractory state before and after surgery and the risk of developing an infectious disease after surgery.

This tool will allow doctors to initiate antibiotic treatment in those patients who are to undergo or have just undergone surgery and have a high risk of developing an infectious disease, thus simultaneously preventing the indiscriminate use of antibiotics in similar patients who have a low risk of developing an infectious disease.

This kit is also useful in determining the doses of antibiotics to be administered, if antibiotics are necessary.

Competitive advantages

This tool makes it possible to know in a non-invasive, fast, and simple manner whether or not the patient needs antibiotic treatment to prevent infection, thus promoting simultaneously the prevention of septicaemia. The kit offers an efficiency not achieved so far with kits currently available on the market

Septitest® from Molzym Molecular Diagnostics, SeptiFast® from Roche Pharmaceuticals and Plex-ID® from Abbott are able to identify dozens of bacteria, fungi and even antibiotic resistance plasmids, but none study the immunological status of the patient in order to predict the risk of infection. The key is in Immune Tolerance.

The kit is especially useful for patients who are to undergo surgery and have tolerance to infections, as depending on the test results it is possible to postpone surgery or establish preventive antibiotic therapy. In addition, in the case of a patient who has just undergone major surgery or suffered a heart attack, the kit will provide improved monitoring of the patient's evolution.

Type of collaboration sought

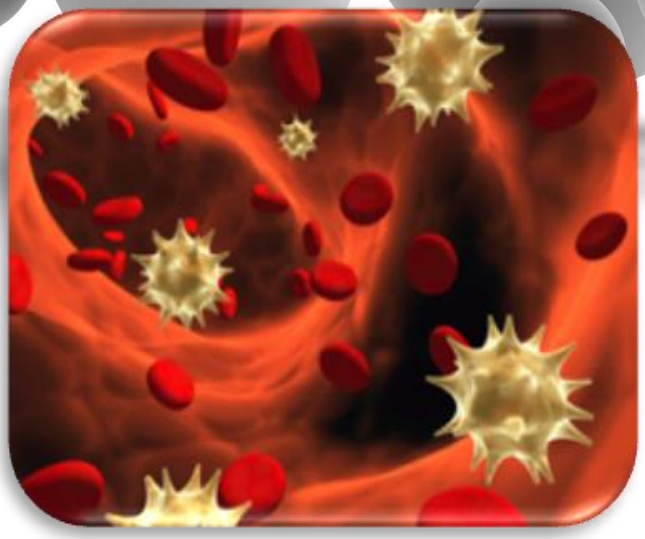
Cooperation is sought with any Party interested in partnering, licensing or investing in the technology, whether it be an investor to fund the project, a partner interested in getting involved in any of the various phases until its placement on the market, a patent licensee, etc. Organisations potentially interested in this technology are those devoted to the manufacture, commercialisation and/or distribution of disease diagnosis kits; as well as universities, hospitals, research centres and all types of institutions engaged in infectious diseases diagnosis and treatment research.

Current stage of development

In vitro studies on samples from human patients (150 patients diagnosed with two different diseases) have already been carried out.

Current state of intellectual property

Spanish patent P201330768, granted in September 2015.
International patent application PCT/ES2014/070434.
European Patent application 14738868.0, filed in December 2015.



For further information, please contact

Innovation Unit
Foundation for Biomedical Research of La Paz University Hospital (FIBHULP)-IdiPAZ
Telephone number: +34 91 207 12 34
e-mail: innovacion@idipaz.es
Web: www.idipaz.es

Technology Offer from the Foundation for Biomedical Research of La Paz University Hospital