

URINE BIOMARKERS IN CHRONIC ALLOGRAFT NEPHROPATHY

A research group with wide experience in nephrological diseases have discovered biomarkers that allow a direct measure of kidney tissue damage in an early stage of chronic allograft nephropaty through the analysis of urine samples.

BACKGROUND

During the last three decades, the incidence and prevalence of end-stage renal disease has increased each year all over the world.

In these cases, kidney transplantation is the best therapeutic option. However, over 50% of renal transplants fail because of chronic allograft dysfunction.

One of the current methods for diagnosis and monitorization of renal function, especially for those patients with Chronic Nephropathy of Transplant (NCT), is renal biopsy. However, it is an invasive procedure and entails different risks (associated morbidity) and high costs.

There is a real need to discover non-invasive diagnostic tools that reveal the existence of renal damage and that help to improve graft half-life. For that, urine seems to be an ideal source of potential biomarkers for renal function, and urinary proteomics a good approach in an attempt to achieve sensitive analysis.

TECHNOLOGY DESCRIPTION

The product will be a diagnostic kit with biomarkers that allows a direct measure of the kidney damage in an early stage through the analysis of a urine sample of the patient.

This technology will be applicable to kidney transplanted patients and also to patients with renal diseases.

ADVANTAGES

- It is a non-invasive procedure.
- It will allow following the patient more frequently.
- It will help to clarify the pathogenic mechanism of NCT and to design new therapies
- It will reduce the sanitary cost.

CURRENT STAGE OF DEVELOPMENT

Through urinary proteomics, the investigators have detected one specific combination of peptides that were to be more abounding in the control population than in the patients with chronic allograft dysfunction and that identified these two groups correctly. A side project resulted in the discovery of a new protein NCT specific. At present, we plan to validate these results in a wider and varied population.

GOAL

We are searching companies interested in the acquisition of the license, the further development of the diagnostic kit and its commercialization.

PATENT

2 patent applications have been filed:
- PCT/EP2008/060062 was filed on July 2008. Patent applications extended into national phases in US, EU, Canada and Japan. Applicants: Hospital Clínic i Provincial de Barcelona, IDIBAPS and Queen Mary University.
- P200802442 was filed on August 2008. Patent application extended into national phases in US, EU, Canada and Japan. Applicants: Hospital Clínic i Provincial de Barcelona and IDIBAPS.

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