Universidad de Alcalá

METHOD OF DIAGNOSIS OF NON-INVASIVE RENAL FAILURE AND PRIOR TO SYMPTOMS AND FUNCTIONAL DISORDERS

TECHNOLOGY OFFER

Code

BIO_UAH_22

Application areas

- Life Sciences, Medicine, Pharma

Type of collaboration

- Technical cooperation
- Commercial agreement with technical assistance
- License agreement

Main researches

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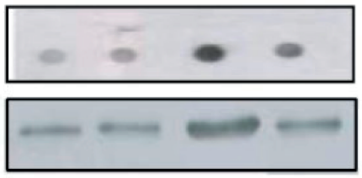

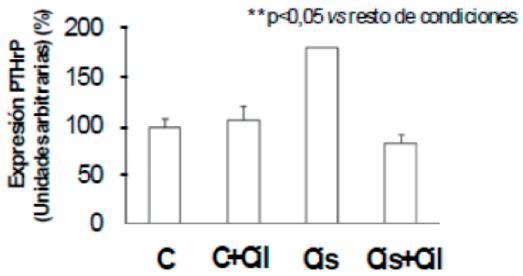

ABSTRACT

Renal disease can be acute or chronic and both progress with Renal Insufficiency (RI) and ultimately death.

In recent years the search and identification of new RI biomarkers molecules, particularly in urine, has intensified.

The invention describes the diagnosis of acute or chronic Renal Insufficiency by urinary quantification of the protein related to Parathyroid Hormone PTHrP, comparing that amount with at least one reference value and diagnosing RI based on that comparison. PTHrP is normally undetectable in organic fluids of a healthy individual, so that its mere presence already serves as a marker of disease. Thus, the finding of an increased urinary PTHrP value in comparison to the value found in healthy individuals results in a biomarker indicative of acute or chronic IR.

The most viable method is to analyze urine samples using Western Blotting of proteins using a specific monoclonal antibody that recognizes the protein related to Parathormone (PTHrP). The presence of a single band, in addition to demonstrating the specificity of the methodology used, allows to use a simpler detection technique such as the dot blot.

In order to quantify the above analysis, a preferred embodiment of the method of the invention is that the reference value is obtained from a control sample. And that the individual from which the urine sample is taken is a mammal, preferably a human.

ADVANTAGES AND INNOVATIONS

The biomarker described has the following major clinical advantages over other known biomarkers:

- The method only requires the analysis of an isolated sample of urine to make possible the diagnosis of RI.
- While the diagnostic utility of known biomarkers in urine is limited to acute renal failure (ARF), this method further allows the diagnosis of chronic renal failure (CRF).
- Since the method described in this invention only requires the analysis of an isolated urine sample, it makes it possible to diagnose acute or chronic RI in isolated samples from patients' urine or in single samples, and even in old urine samples allowing the retrospective diagnosis even in the absence of serum or plasma.
- The presence of a unique band, in addition to demonstrating the specificity of the methodology used, allows the use of a simpler detection technique such as the dot blot.