

## Biomarker for Lupus Nephritis prognosis

CSIC and Hospital Vall d'Hebron have developed a prognosis method for Lupus Nephritis based on the quantification of the level of a Neuropilin (NRP-1) by means of gene expression and protein levels

### The need

Lupus nephritis (LN) develops in 40-75% of patients with Systemic Lupus Erythematosus (SLE) and is associated with an unpredictable course and increased morbidity. Typically, LN patients are treated for up to 6 months using first line immunosuppressive treatments, but up to 25% of the patients develop renal damages anyway. If patients are non-responders, other treatments can be used, but renal fibrosis may already have progressed. Currently, renal biopsies and serological markers can be used to diagnose and assess the response to treatments, but they are not fully reliable until the first 6 month of treatment are performed.

### The solution

Renal biopsies and serological biomarkers are used to diagnose and assess the response to treatment of kidney damage. Urinary biomarkers such as IL-2, TWEAK, MCP-1 and NGAL are not prognostic nature so that they can guide the physician toward the best treatment. By quantifying mRNA or protein levels of NRP-1 (by qRT-PCR or ELISA) in the urine of patients at the time of diagnosis, we can predict the clinical response to standard therapy, which will help physicians managing patients and introducing the second line of treatment quickly and modifying the course of the disease.

### Innovative aspects

- Indicates the prognosis of the disease at the time of diagnosis and throughout treatment.
- Improved morbidity and mortality in these patients and therefore their prognosis and quality of life.
- Biomarker levels can also be used to evaluate the effects of a drug or drug candidate for patients with lupus nephritis.

### Stage of development

Biomarker clinically validated in 48 patients, measuring protein and gene expression in urine.

### Market

SLE is an autoimmune disease with a prevalence of 1/1000 inhabitants in Spain and US, mainly affecting fertile women. Lupus nephritis is histologically present in most SLE patients (even those without clinical symptoms) and it is associated with increased morbidity. Up to 25% of the lupus nephritis patients develop chronic renal failure and need dialysis. There is a need for an accurate test that would help physicians in the management of the patients and the choice of the best treatment available.

### IP:

- PCT patent application
- Patent rights up to  $\geq$  2033

## WE ARE LOOKING FOR...

Pharmaceutical companies interested in manufacturing and marketing the prognosis kit based on this technology.

### CONTACT DETAILS

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