



Protein Biomarkers for Immune Assessment and Prediction of Transplant Rejection

Tech ID: 23826 / UC Case 2011-896-0

BACKGROUND

Current diagnostic methods of renal allograft rejection are neither sensitive, nor specific. Needle biopsies are invasive and associated with patient morbidity. It is thus desirable to develop noninvasive tests to predict and diagnose rejection.

INNOVATION

UCLA researchers have identified a number of proteins present in human plasma associated with transplant rejection. In a study that enrolled over 500 patients, Reed and coworkers utilized the Banff criteria to establish that 22 proteins were significantly associated with acute allograft rejection. Two of these were positively identified as α -1 anti-chymotrypsin and Apo A1. Plasma concentrations of both protein levels were significantly lower at rejection, compared to post-rejection. Current research is focused on determining the identity of the remaining proteins.

APPLICATIONS

- ▶ Predict the propensity for a patient to reject a kidney transplantation
- ▶ Rapidly determine whether a kidney transplant patient is rejecting the donor organ

ADVANTAGES

- ▶ Much less invasive than needle biopsy
- ▶ A plasma sample is all that is needed to determine the presence of the biomarkers

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,451,636	10/22/2019	2011-896

RELATED MATERIALS

- ▶ Ziegler ME, Chen T, LeBlanc JF, Wei X, Gjertson DW, Li KC, Khalighi MA, Lassman CR, Veale JL, Gritsch HA, Reed EF. Apolipoprotein A1 and C-terminal fragment of a-1 antichymotrypsin are candidate plasma biomarkers associated with acute renal allograft rejection. Transplantation. 2011 Aug 27;92(4):388-95.

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OTHER INFORMATION

KEYWORDS

Allograt rejection, renal transplantation, biomarker, antichymotrypsin, plasma biomarker, apolipoprotein a1

CATEGORIZED AS

- ▶ **Biotechnology**
 - ▶ Bioinformatics
 - ▶ Health
 - ▶ Proteomics
- ▶ **Medical**
 - ▶ Diagnostics
 - ▶ Disease: Autoimmune and Inflammation
 - ▶ Disease: Kidneys and Genito-Urinary System
 - ▶ Screening

RELATED CASES

2011-896-0

