



Application number/Title: 34989 - HLA Class I and II Associations with Renal Dysfunction in an Aging Population

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Keywords provided by the Applicant PI to describe the research project:

HLA, Renal, Creatinine, Microalbumin, Imputation, Age

Application Lay Summary:

1a: This project aims to establish a new way of identifying immune-related genes which impact upon renal disease.

This project will “impute” HLA types from Biobank data. This will indicate extended genomic coverage, allowing the assessment of any impact beyond the HLA genes. These data will be compared with markers of renal decline and dysfunction with the aim of identifying additional and novel genetic associations in renal impairment.

This would be of particular value in renal diseases with immune-mediated components in their aetiology such as lupus or membranous nephropathy.

1b: This research will identify previously unknown associations with renal function and will inform the clinical management of patients with renal disease.

The research team is composed of clinical and academic professionals and as such this is targeted research with a strong likelihood of patient benefit.

1c: The Human Leucocyte Antigen (HLA) genes are encoded on chromosome 6 which is included in the Biobank's data resource. There are known HLA associations with some renal diseases and renal function is known to deteriorate with age.

The Biobank data will be translated ("imputed") into HLA types and compared with clinical measures of renal function such as urinary biomarkers (microalbumin, creatinine, potassium and sodium). Analysis will be performed to

identify immune-related influences on renal function to extend our understanding of the causes of renal failure and any impact of aging which may hasten renal decline.

1d: Full cohort