Title: Development of innovative method for diagnosing renal disease: Analysis of urinary cells in model mice

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**Development of innovative method for diagnosing renal disease -Analysis of urinary cells in model mice-**

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**Materials and methods**

**<animals>**

- Renal disease model; male BXSB/MpJ (lupus nephritis model<CKD model>, n=3)
- Control mice ; male C57BL/6 (n=3)

**Urine collection**

**[Section.1: Cytological observation of UDCs]**

**BXSB/MpJ (12-week-old, No.1)**  

**C57BL/6 (12-week-old, No.1)**

![Image of urine samples](image)

**[Section.2: Urinary mRNA expression]**

**Moderate glomerular lesion (PAS, Bar=50μm)**

**Slight glomerular lesion (PAS, Bar=50μm)**

- **BXSB/MpJ (12-week-old, No.1)**  
- **BXSB/MpJ (12-week-old, No.2)**

**Slight glomerular lesion (PAS, Bar=50μm)**

- **BXSB/MpJ (12-week-old, No.3)**

**<What is the UDCs?>**

**Major methods for diagnosing of renal disease**

- **Biological Profile test**
- **Urinary Paper Test**
- **Renal biopsy**

**<Our innovative method>**

I. **Morphological analysis**

II. **Molecular biological analysis**

**<purpose>**

- to elucidate the correlation between renal pathology and appearance pattern of UDCs

**[Introduction]**

Recently, the global population of patients with CKD, associated with the change of lifestyle, rapidly increase(Fig.1). Renal disease including CKD is the most serious problem in all animals. In the present study, we analyzed UDCs to develop new non-invasive early diagnostic method. Our study will contribute to decrease the number of patients having renal disease.

**<Conclusion>**

1. **The urinary decidual cells(UDCs) derived from glomerular epithelial cells and collecting duct cells could be detected and increased with the development of lupus nephritis.**

2. **Evaluating the UDCs may be useful for diagnosis of lupus nephritis which is progress to chronic kidney disease(CKD).**

3. In future study, we will target other urinary molecules derived from damaged kidney for development of earlier diagnostic methods.