

Submission No. : GN02-0003

Session Title : Glomerulonephritis 2

Session Topic : Perspective on the Pathophysiology of Glomerular Diseases

Date & Time, Place : June 15 (Sat) / 08:30-10:00 / Room 1 (GBR 101 - 102)

Biobank-driven single cell transcriptomics with multimodal integration in glomerular diseases

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Cells in our body show distinct features, even though they have identical genomic information. This may be due to the identity of the cells following cell-type specific epigenetic or transcriptomic differences and unique niche around the cells. Since deviation from destined identity of a certain type may cause human disease, understanding human biology at the cellular resolution may be an ultimate goal in biology and medicine. Thus, disease-specific similarities and differences in single cell level transcriptomic alterations in various glomerular diseases is necessary to understand pathophysiology of kidney glomerular diseases. In this lecture, I would like to talk about reason why we should do single cell analysis using human biospecimen, explain the brief methodology and share our experience on the analysis.

Keywords: single cell RNA sequencing, biobank, glomerular diseases