Asian Transplantation Week 2023

Nov. 15(Wed)~18(Sat), 2023
Conrad Seoul, Korea

Submission No.: PG12-9388
Session : Postgraduate Course 12 (Basic)
Date & Time, Place : November 16 (Thu), 15:00-16:30, Room 6F-1
Session Title : Single cell biology in transplantation

Introduction of single-cell RNA sequencing

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A revolution in cellular measurement technology is underway. Whereas prior studies have been able to analyze only the averaged outputs from heterogeneous cell population in the tissues, we now can accurately monitor genome-wide gene expression, regulation, function, cellular history, and cellular interactions in thousands of individual cells in a single experiment. Single cell analyzes are key drivers in changing our previous morphotype-based tissue descriptions to unbiased genomic definitions, and therefore improving our understanding of development, homeostasis, and disease. More recently, single-cell sequencing technologies have been developed to simultaneously analyze multi-omics such as genome, epigenome, transcriptome, and proteome. Integrative analysis of single-cell multi-omics data providing information on biomolecules from multiple layers is promising to understand the complex biology systematically. In this presentation, recent single cell sequencing technologies and applications of single-cell RNA sequencing will be discussed.