EMM Experimental & Molecular Medicine

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[Special Feature] Single Cell Genomics

Technical advancements in single-cell genomics have improved our understanding of molecular and genetic regulation. All cell types in the human body can now be characterized using single-cell multi-omics analyses, which help uncover the complex genetic and epigenetic regulatory mechanisms and indicate cellular interactions within tissues. Now, as single-cell research moves toward clinical implementation, it is being incorporated in diagnostic and therapeutic measures for precision medicine. This special issue in single-cell genomics provides a comprehensive view of the current technological status and the future perspectives and applications of single-cell analysis.

Single-cell genomics technology: perspectives

Tae Hee Hong & Woong-Yang Park

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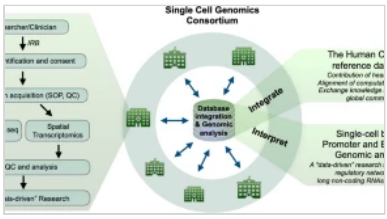
Review

An era of single-cell genomics consortia



Yoshinari Ando, Andrew Tae-Jun Kwon & Jay W. Shin

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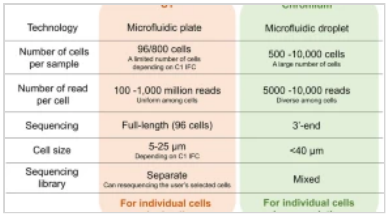
Single-cell sequencing techniques from individual to multiomics analyses



Technology	Microfluidic plate	Microfluidic droplet
Number of cells per sample	96/800 cells	500 -10,000 cells
Number of read per cell	100 -1,000 million reads	5000 -10,000 reads
Sequencing	Full-length (96 cells)	3'-end
Cell size	5-25 μm	<40 μm
Sequencing library	Separate	Mixed
	For individual cells	For individual cells

Yukie Kashima, Yoshitaka Sakamoto ... Ayako Suzuki

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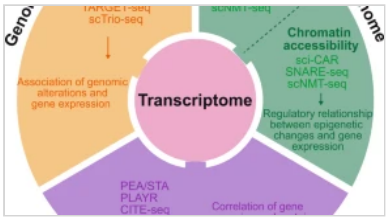
Single-cell multiomics: technologies and data analysis methods



Jeongwoo Lee, Do Young Hyeon & Daehee Hwang

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Human Cell Atlas and cell-type authentication for regenerative medicine

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