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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 spatial multi-omics analysis

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Spatial multi-omics serves as an advanced technology that enables the amalgamation of intricate molecular data from diverse biological strata, such as the transcriptome and proteome, along with spatial details. This methodology offers a comprehensive and spatially precise perspective of biological systems, surmounting the limitations of conventional omics approaches that neglect the spatial context of cells or tissues. By facilitating a more comprehensive and accurate scrutiny of intricate biological processes, spatial multi-omics finds extensive applications in numerous fields, including transplantation, cancer, and immunology. At present, spatial techniques are evolving through three primary avenues: the profiling of proteins through multiplexed antibody detection, transcriptomic analysis based on a barcoding system, and the profiling of mRNA via imaging-based methods. On the whole, spatial multi-omics emerges as a potent and auspicious instrument for comprehensive analyses of intricate biological systems. Its ongoing evolution is anticipated to yield substantial strides in our comprehension of both biology and disease.