

MSc. Bio. Zeynep Karakan Karakaş graduated from Çukurova University, Department of Biology in 2006. She completed her master's thesis titled “Investigation of Y Chromosomal Irregularities in Male Individuals with Antisocial Personality Disorder and Aggressive” at Çukurova University, Institute of Medical Sciences Department of Molecular Biology and Genetics. She studied flow cytometry of hematological malignancies as an expert biologist at Koç University Hospital. She has much experience in flow cytometry such as antibody selection, panel design, cell suspension preparation analysis, and interpretation. She has been analyzing and sorting cells with flow cytometry tests for years. She is actively using LSR Fortessa, FACSAria III for researchers. She can do single-cell and bulk sorting on various cell lines in the flow cytometry core like GFP, Ips, T, B, NK, NKT, organoid, zebrafish, and many cancer cell lines. Moreover, she performs immune-phenotyping analysis with 5 laser and multicolor dyes by adjusting the compensation of the BD instruments. Zeynep currently works at IBG flow cytometry core facility as manager and she takes an active part in all flow cytometry required experiments for principal investigators and graduate level students.



Lab-Basic Multicolor Flow Cytometry: Flow cytometry is a sophisticated instrument measuring multiple physical characteristics of a single cell such as size and granularity simultaneously as the cell flows in suspension through a measuring device. Its engineering rationale depends on the light scattering features of the cells under investigation, which may be derived from dyes or monoclonal antibodies targeting either extracellular molecules located on the surface or intracellular molecules inside the cell. This approach makes flow cytometry a powerful tool for the detailed analysis of complex populations in a short time. This review covers the general principles and selected applications of flow cytometry such as immune-phenotyping of peripheral blood cells, analysis of apoptosis, and detection of cytokines.