

Insight, innovation, integration (120 words)

The tumor microenvironment comprises tumor cells, stromal cells, and lymphocytes that communicate in part through secreted chemokines. ELR+ CXC chemokines are one class of proteins important for tumor maintenance and chemotaxis. Here we combined image-based cytometry and microengraving to examine the secretory behaviors of a subset of these chemokines from tens of thousands of single cells isolated from colorectal tumors. These single-cell measurements afforded by the nanowell-based technology revealed the types and distributions of secretory states exhibited by both tumor cells and lymphocytes. This integrated analysis showed deep phenotypic states masked by the bulk characterization of secreted factors and gene expression. These data suggest that the signaling cues within the microenvironment of the tumor are heterogeneous and may evolve dynamically.