1179. Deep spatial immuno-profiling through high biomarker colocalization in FFPE tumor tissue samples

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Introduction
The recent emergence of multiplexed immunohistochemistry (IHC) has the potential to revolutionize immuno-oncology and pathology research as it enables the identification of complex cell subtypes and their interactions in the tumor environment. Comprehensive classification of the different cell types in immunohistochemistry presents a unique challenge as many of the relevant biomarkers are common to large subsets of cell types within a particular cell class. Therefore, a key feature for accurate phenotypic classification is the ability to detect a high number of colocalized biomarkers. In this study, we demonstrate how the InSituPlex® technology enables researchers to reliably label and detect phenotypes with markers expressed in the same compartment (membrane, cytoplasmic, or nuclear) on single cells of a NSCLC tissue section stained with 16 different markers. For more information, refer to poster #1183.

Conclusions
In this poster, we demonstrate research of the identification of phenotypes based on the co-expression and colocalization of biomarkers on the same cells in a lung tumor section. Analysis of the high dimensional, spatially resolved data obtained from a 16-plex assay provided phenotypic information of different lymphocytes, macrophages, dendritic cells, antigen-presenting cells, and tumor cell populations with multiple colocalized biomarkers.