弘晉有限公司
Hong Jing Co., Ltd.
HJ20025

THE miRNAscope™ ASSAY

WITH SPATIAL AND MORPHOLOGICAL CONTEXT
AT SINGLE-CELL RESOLUTION

bio-techne | ACD

microRNA（miRNA）是在組織、細胞及不同的細胞狀態中表現的18~22個核苷酸的小型RNA分子。分析miRNA通常使用小型RNA定序(small RNA sequencing)、Microarray及定量即時聚合酶鏈鎖反應(qPCR)，儘管這些方法可以提供大量的miRNA表現量資訊，但無法提供組織型態學方面的資訊。

為了滿足這一需求，ACD開發了一種名為miRNAscope™的RNA原位雜交(ISH)技術。其提供高靈敏度、專一性的單細胞分子偵測檢測分式。針對miRNA和其他長度約17~50個核苷酸的RNA設計探針並搭配miRNAscope™試劑盒，檢測包括miRNA在內的小型RNA分子(ASO、miRNA、siRNA及其他短的RNA序列等)在組織及細胞中的表現。

應用

- miRNA / siRNA / ASO在組織中的分布
- 研究miRNA的gain-of-function及loss-of-function
- siRNA / ASO運送機制及其穩定性

優點

★ 具有高靈敏度和高專一性

★ 所有探針適用相同的反應條件

★ 針對17~50個核苷酸的小型RNA設計的的客製化探針設計

★ 可同時搭配IHC實驗，在同一組織上觀察到RNA及蛋白質的表現(ISH-IHC)

★ 可用於FFPE、Fresh/Fixed Froze、Culture cell等樣本

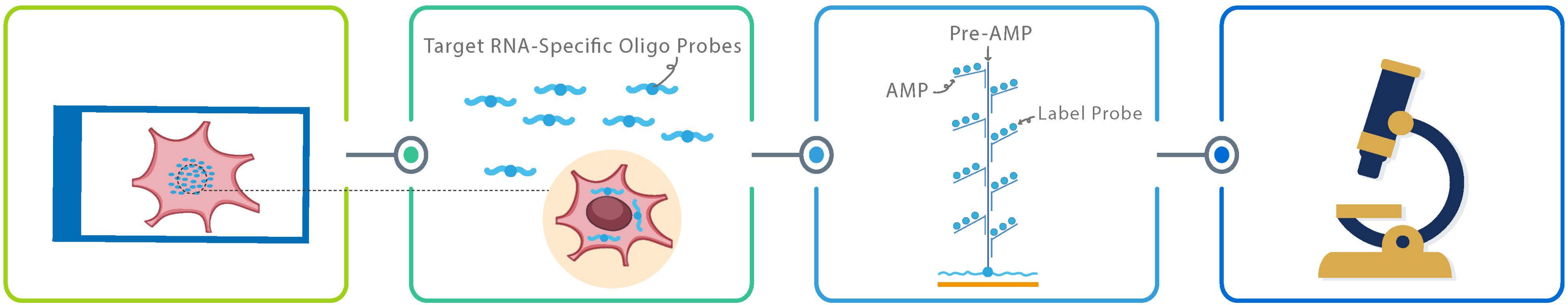
★ 單色可見光(Fast Red)試劑盒(可被螢光激發)

miRNAscope™ 單染試劑盒

產品名稱	規格	貨號	
miRNAscope™ HD Reagent Kit- RED	20assay	324500	·miRNAscope™ HD Detection Reagents – RED ·RNAscope® Pretreat Reagents-H202 and Protease Reagents ·RNAscope Target Retrieval ·RNAscope Wash Buffer
miRNAscope™ Intro Pack HD Reagent Kit RED – Hsa	20assay	324530	·miRNAscope™ HD Reagent Kit – RED ·Control Slide Pack -Human Hela Cell Pellet ·Hydrophobic Barrier Pen ·Positive Control Probe U6 ·Negative Control Probe Scramble ·VectaMount Mounting Medium
miRNAscope™ Intro Pack HD Reagent Kit RED – Mmu	20assay	324531	·miRNAscope™ HD Reagent Kit – RED ·Control Slide Pack -Mouse 3T3 Cell Pellets ·Hydrophobic Barrier Pen ·Positive Control Probe U6 ·Negative Control Probe Scramble ·VectaMount Mounting Medium

實 驗 流 程

1 Tissue section　2 Hybridize to target　3 Amplify signal　4 Image



Mouse tissue/RNA ISH

miRNAscope™

實驗結果

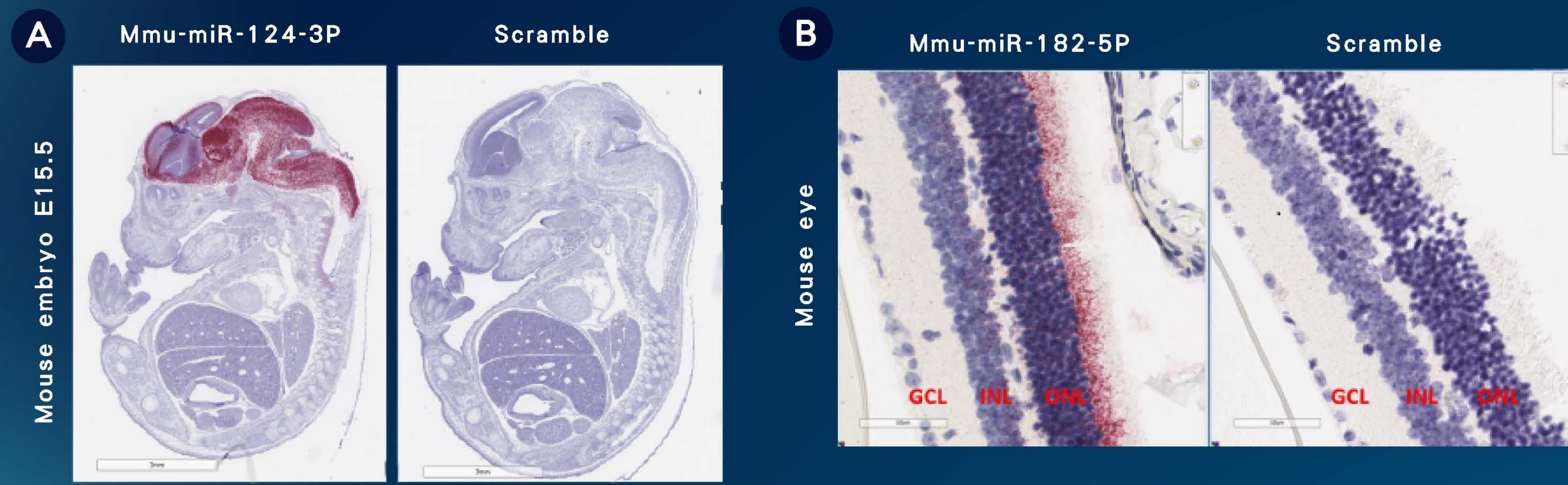


Figure 1. miRNA detection in various mouse tissues

A) Specific detection of Mmu-miR-124-3p in the central nervous system of FFPE mouse embryo E 15.5. As a control, staining with a scramble probe demonstrates the specificity of the miRNAscope TM assay.

B) Detection of the outer nuclear layer (ONL) specific miR-182-5p in FFPE mouse eye. As expected, negligible miR-182-5p was detected in the inner nuclear layer (INL)or ganglion cell layer(GCL). Staining with scramble probe demonstrates miRNAscope TM assay specificity.

Human tissue/RNA ISH

miRNAscope™

實 驗 結 果

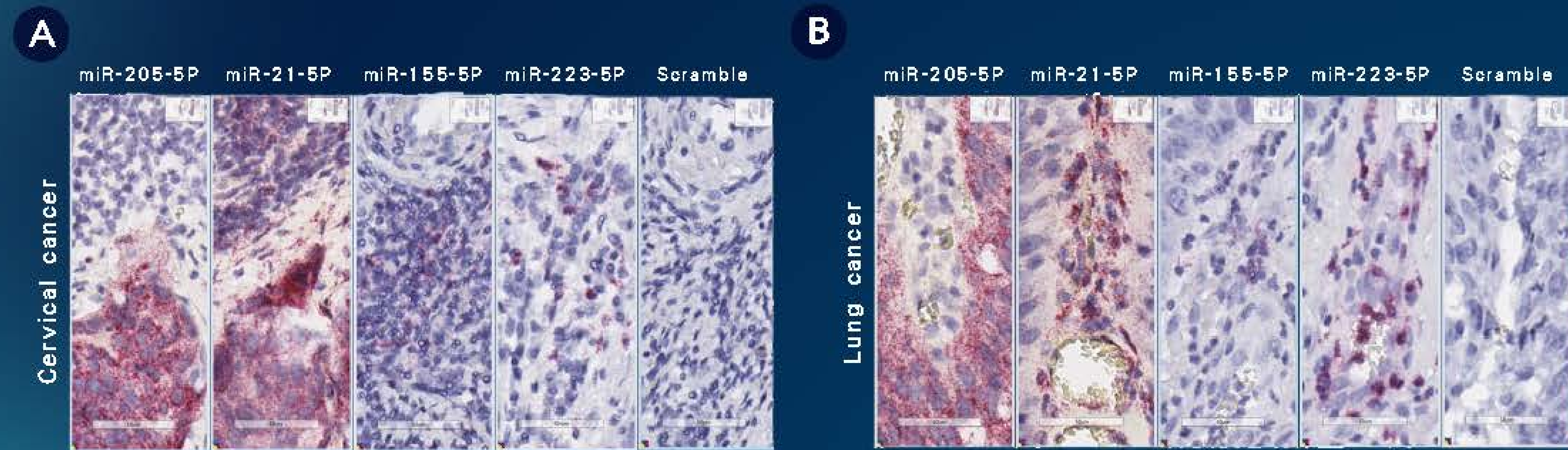


Figure 2. Detection of commonly studied miRNAs in human cervical and lung cancer. miRNA detection in A) human cervical and B) lung FFPE tissues. Two miRNAs, human miR-205-5p and miR-21-5p, were observed at high levels in cervical and lung cancer tissues in a cell type specific manner. The myeloid enriched miR 223 5 p miRNA was detected in high levels in a subset of cells with a strong nuclear stain. A lymphoid specific miRNA, miRNA-155-5p, was found to be present at lower levels in densely populated regions of the cancer tissues. As a negative control tissues were stained with scramble probe demonstrating the specificity of the miRNAscope TM Assay.

Human tissue/RNA ISH-IHC

miRNAscope™

實 驗 結 果

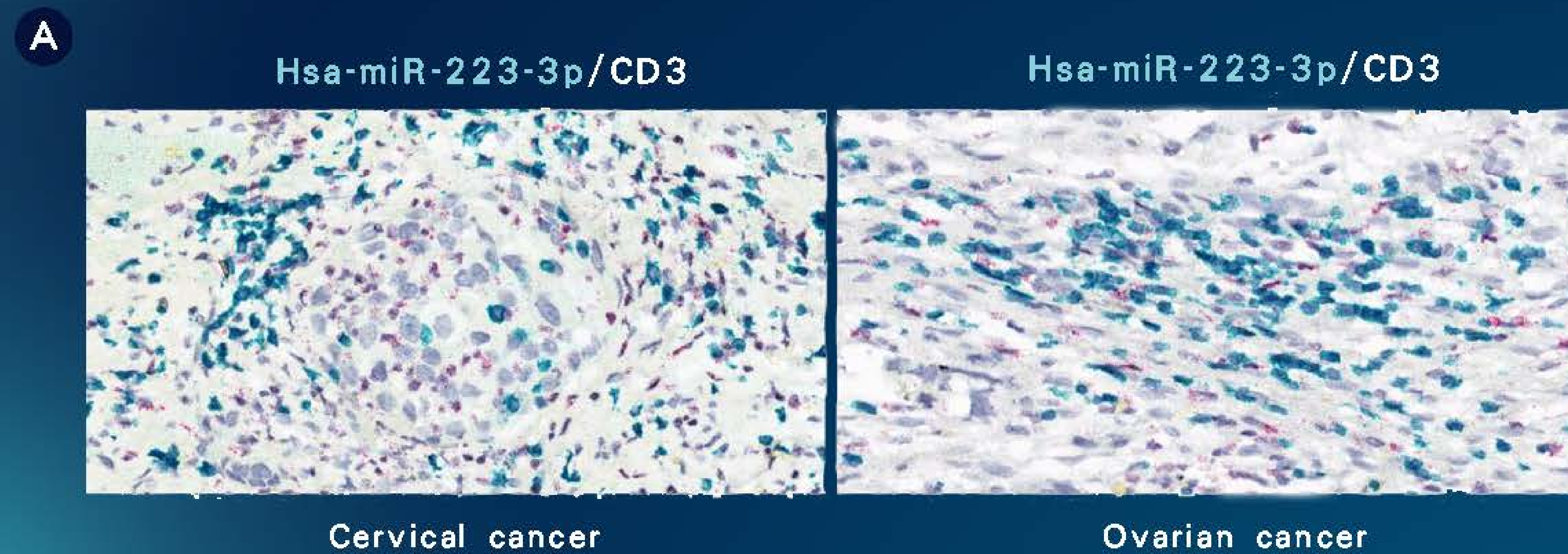


Figure 3. Sequential miRNAscopeTM ISH-IHC and Assay Controls.
A) Sequential ISH IHC staining was performed on human cervical and ovarian cancer tissues. The myeloid specific miRNA, hsa-miR-223-5p, and T cell marker CD3 were detected on the same tissue section. ISH and IHC staining shows mutually exclusive localization.