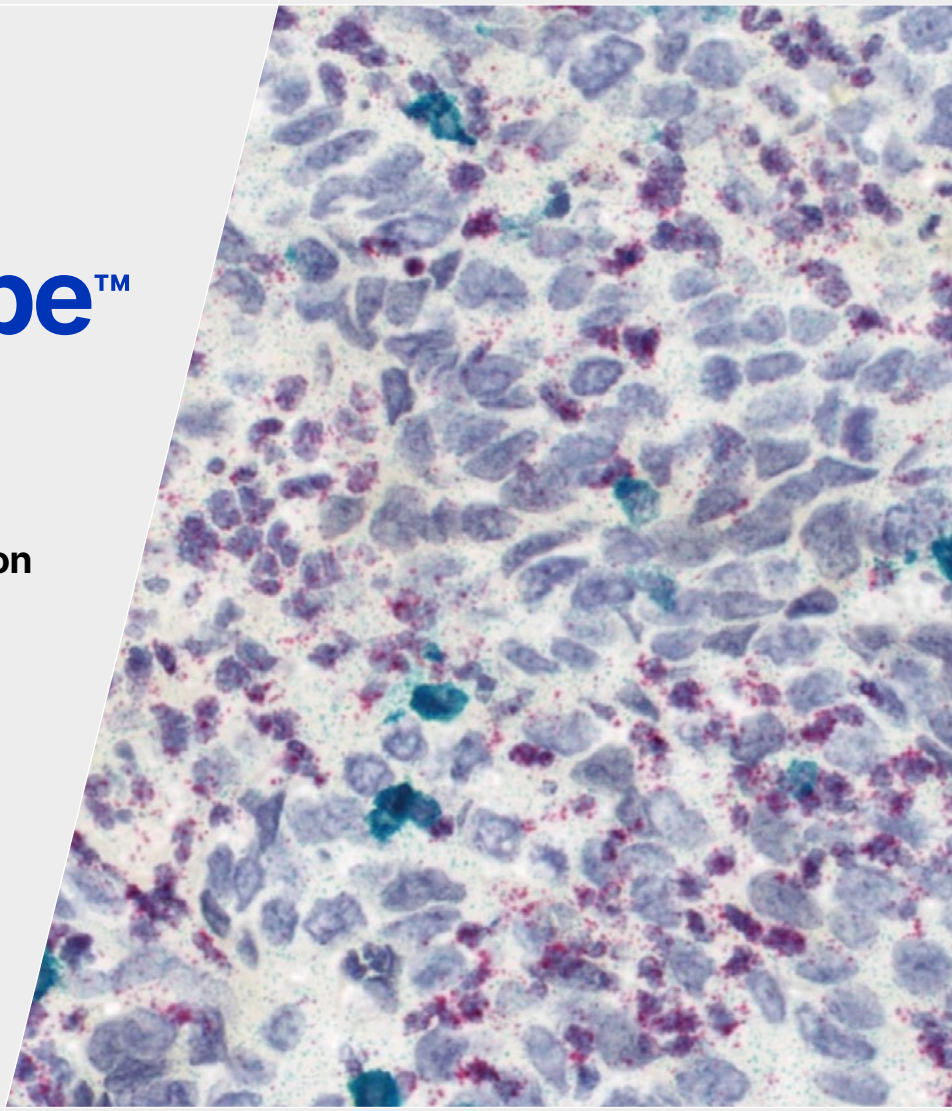
bio-techne
spatial™

The miRNAscope™ Assay

with Spatial and Morphological Context at Single-Cell Resolution



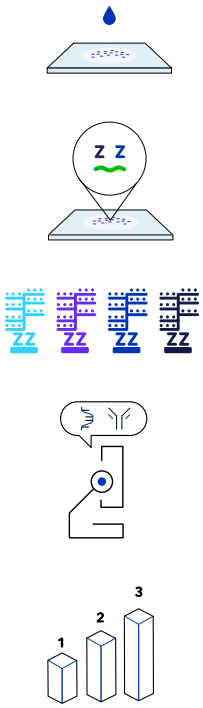
Visualize Small RNAs with Morphological Context and Spatial Resolution

RNAscope™ technology is an advanced *in situ* hybridization assay that allows for the visualization of single-molecule gene expression directly in intact tissues with single cell resolution. The assay represents a major advancement in RNA ISH approaches with its proprietary probe design to amplify target-specific signals but not background noise from non-specific hybridization.

Detection of small RNAs requires a robust, highly specific, and highly sensitive assay with minimal time, ease of effort, and ease of data interpretation. While microarrays and PCR both provide useful molecular profiles of diseases, important clinically relevant cell and tissue context information is lost along with the spatial variation of gene expression patterns. The miRNAscope Assay is an advanced *in situ* hybridization assay leveraging the RNAscope core technology that allows for the visualization of small RNA expression in intact tissues or cultured cells with single-cell resolution.

We had a great experience using miRNAscope in our compound screening efforts. The technique is incredibly specific and the results are very easy to understand. Also, working with Bio-Techne's team has been extremely beneficial. They communicated with us during the process to ensure we can get the answers to our questions. They generated impeccable!

— A Leading BioPharma Company in NY, USA



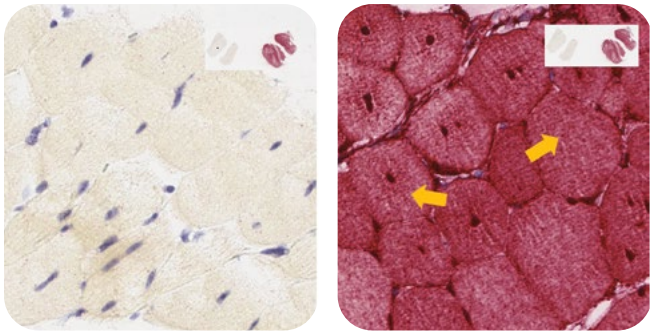
The miRNAscope Assay Demonstrates Exceptional Performance for the Detection of:

- Antisense oligonucleotides (ASOs)
- Small interfering RNAs (siRNAs)
- microRNAs (miRNAs)
- Small RNA sequences that are 17-50nt in length

Unlock the Potential to Detect Small RNAs with the New miRNAscope Assay

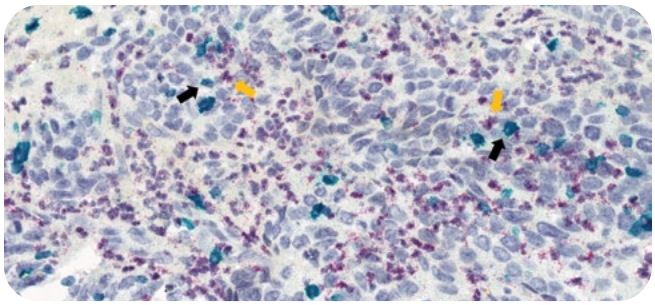
- Detect and identify cellular subtypes
- Visualize gene regulation with morphological context
- Validate miRNA biomarkers in intact tissues
- Assess small RNA therapeutic delivery mechanism
- Evaluate biodistribution and efficacy of therapy
- Add a visual dimension to heterogeneous tissue biology and analysis

Visualize at the Single-Cell Level with Unmatched Resolution



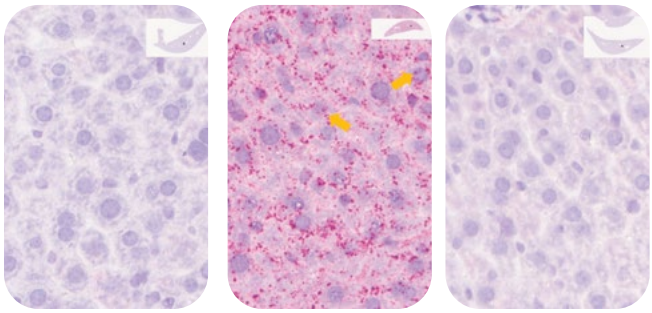
ASO

Example detection of ASO target (yellow arrows) in the treated mouse quad muscle tissue samples and not in the vehicle samples indicates successful delivery of ASO therapy.



miRNA ISH-IHC

Example of miRNAscope ISH-IHC staining for miR-223-3p (yellow arrows) / CD3 (black arrows) in human cervical cancer. T cell infiltration within cervical tumor visualized using CD3-IHC in combination with myeloid-specific miRNAscope miR-223-3p probe.



siRNA

Example of specific detection of the siRNA#1 probe (yellow arrows) in siRNA#1 treated mouse liver tissue samples only and not in the negative saline nor siRNA#2 treated samples indicates successful delivery of siRNA therapy and specificity of the miRNAscope Assay. Biodistribution of siRNA target is also observed in the siRNA#1 treated samples.

Note: Above tissue slides were counterstained with hematoxylin to provide blue staining of cells.

miRNAscope Assay Benefits

Specificity	Speed	Sensitivity	Ease of Use
• Deeper evaluation of target in tissue context • High signal-to-noise ratio for ease of data interpretation	• Fast, flexible workflow for manual or automated use • Rapid probe design for small targets (17–50 nt) across species	• Spatial context with subcellular resolution • Compatible with multiple sample types	• An out-of-the-box solution • Hands on support and guidance from experienced in-house scientists

Product Offerings

Latest Addition	Features	Chromogenic Singleplex Red	ISH-IHC Compatibility
miRNAscope Assay	Manual Assays	●	●
	Automated on the BOND RX by Leica Biosystems	●	●

Other Offerings	Features	Chromogenic Singleplex Brown	Chromogenic Singleplex Red	Chromogenic Duplex	Fluorescent Multiplex	HiPlex
RNAscope Assay	Manual Assays	●	●	●	●	●
	Automated on BOND RX	●	●	●	●	
	Automated on Roche DISCOVERY ULTRA	●	●	●		
BaseScope Assay	Manual Assays		●	●		
	Automated on BOND RX		●			
	Automated on Roche DISCOVERY ULTRA		●			
Professional Assay Services	Manual Assays	●	●	●	●	
	Automated on BOND RX	●	●	●	●	
	Automated on Roche DISCOVERY ULTRA	●	●	●		

Learn More

Scan the QR code or visit
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