



Now Available

RNAscope® ISH to advance RNA biomarker analysis for gene and cell-based therapies

Helps Solve the PuZZle!

Visualize, localize, and quantify gene expression within a single assay¹

Streamline target identification and selection

- » Distinguish between neoplastic and normal cells that may also be expressing the same antigen
- » Quantitatively measure RNA expression in situ with high sensitivity

EXAMPLE USE Region of interest (ROI) selection in spatial profiling

Visualize in vivo delivery of therapeutic gene expression and vector sequences (viral or non-viral) to identify:

- » Specific tissue and/or cell type
- » Subcellular localization

EXAMPLE USE Confirm trafficking of CAR-T therapy to correct target site and on-target activity

Overcome the limitations of IHC

- » Unique “double Z” probe design and signal amplification methodology provides superior background control
- » Custom RNA probes can be designed and validated in a fraction of the time required for antibodies

EXAMPLE USE Application when antibodies are unavailable or antibody performance is not ideal

Detect, monitor, and quantify therapeutic molecules and targets while avoiding painstaking and cumbersome validation of each IHC reagent antibody

Unlock the full potential of RNA biomarkers

RNAscope® ISH Provides¹

High Sensitivity and Specificity

- » Double Z probe design provides superior background control
- » Unique hybridization-based signal amplification system yields high signal:noise ratio
- » Single-RNA-molecule detection—possible even in partially degraded samples

Quantitative RNA Expression

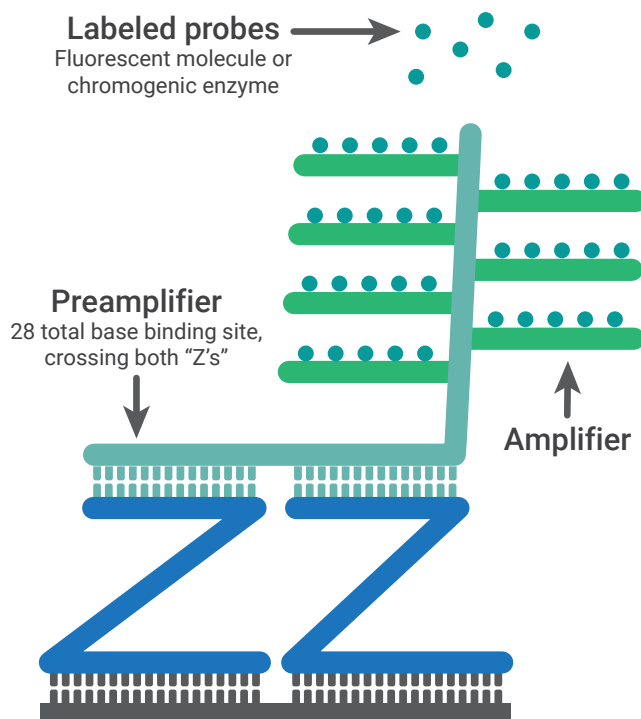
- » Single-molecule visualization allows quantification of RNA expression levels for each single cell across heterogeneous cell populations

Morphological Context

- » Cell-specific expression information within intact tissue architecture

Universal Application

- » Virtually any gene, species, and tissue can be assessed
- » Compatible with clinical sample types (FFPE, fresh or fixed-frozen tissues, PBMCs, cultured cells) and laboratory workflows



Hybridization requires double Z binding—providing simultaneous signal amplification and background noise control.

RNAscope ISH Applications

Target selection and validation

Disease models

Preclinical safety assessment

Pharmacodynamic studies

RNA biomarker development and companion diagnostics

Reference: 1. Wang F, et al. *J Mol Diagn.* 2012;14(1):22-29. doi:10.1016/j.jmoldx.2011.08.002



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