

Vizgen MERSCOPE™ Platform

Your complete *in situ* platform for single-cell spatial genomics

vizgen

Explore New Dimensions with MERSCOPE

Powered by MERFISH (multiplexed error-robust fluorescence *in situ* hybridization) technology, MERSCOPE is the first high multiplexing, high resolution *in situ* platform to combine single-cell and spatial genomics analysis. With MERSCOPE, researchers can benefit from a fully automated system that includes the instrument, reagents, and software needed to accurately quantify and localize RNA in tissue samples.

MERSCOPE FEATURES AND SPECIFICATIONS

**On Instrument
Data Storage
Capacity:** 15 TB

Resolution: 60x oil
immersion;
1.4 NA objective

Lateral Resolution:
100 nm pixel size

Illumination:
5 Laser Lines
3 Color Imaging

**Analysis PC Storage
Capacity:** 15 TB

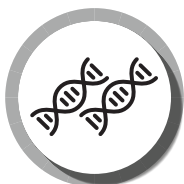


Imaging Camera: Back-thinned cooled sCMOS camera with 2048x2048 pixel sensor

Automated Image Processing: Transcript decoding and cell segmentation

Multiplexing Capabilities: Up to 500 plex with current chemistry. Expanding in 2022

Quantum Efficiency of Imaging Camera: 95%



Multiplexing

High multiplexing with custom gene panel design



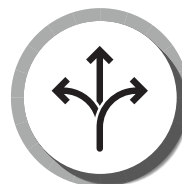
Sensitivity

Detection efficiency ~ 95% in cells; 70% in tissues



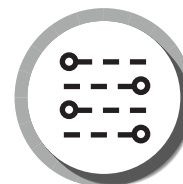
Resolution

Subcellular (100 nm) resolution across whole tissues



Flexibility

Ability to run on many samples or tissue types



Cell Throughput

Over 10⁵ cells in a single sample

WHY SPATIAL?

Single-cell sequencing helps us explore the individual cell, its composition, state, and type. Traditionally, this required tissues to be destroyed or disassociated, causing the loss of rich spatial information within intricately organized 3D tissues. Spatial genomics gives us the opportunity to finally understand the biology of intact tissue with unparalleled resolution at the single-cell level.

MERSCOPE Platform Features

Sample Input Types

Fresh or fixed frozen, adherent or suspended cells

Validated Sample Species*

Human, Mouse

*Can work with other species with reference transcriptions

Instrument Run Time

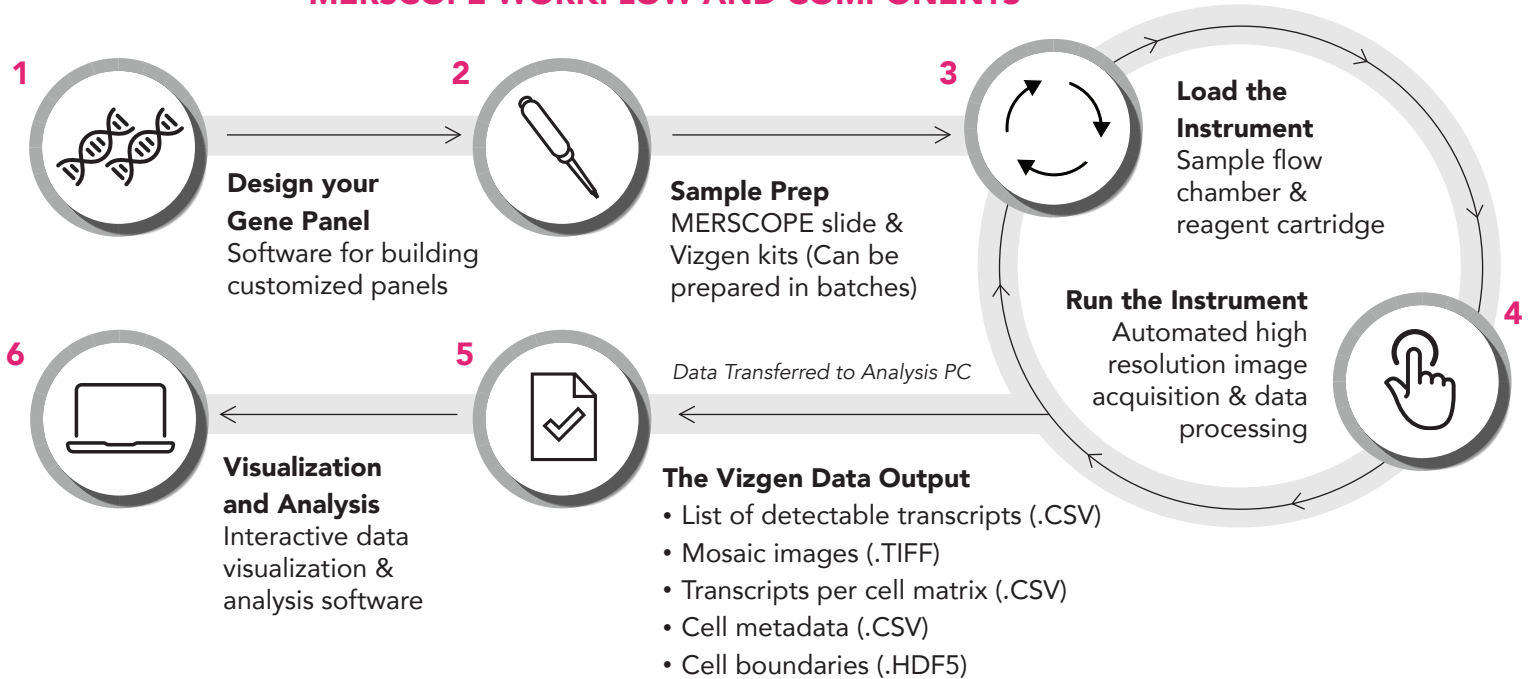
~ 1 day up to 500 genes in 1 cm² tissue slice

Imagable Area:

1 cm² of tissue per instrument run

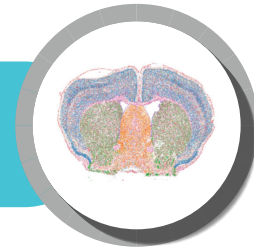


MERSCOPE WORKFLOW AND COMPONENTS



Cells arranged by gene expression

Cells arranged by spatial expression



Visit Vizgen.com to learn more!

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