TAKE THE NEXT STEP

...IN ISOLATING CLINICALLY RELEVANT CTCS

VTX-1 LIQUID BIOPSY SYSTEM

Vortext
BIOSCIENCES
All It Takes Is the Right Tool

The VTX-1 is a simple to use, automated system that efficiently isolates intact CTCs directly from whole blood with high recovery and high purity. It gives you access to cancer biology that just wasn’t possible before, so you’re empowered to take the next step in the fight against cancer.
Next-Generation CTC Collection
The VTX-1 system captures CTCs from whole blood based on their larger size and greater deformability using gentle, microscale vortices. This results in >70%* cell recovery and more clinically relevant CTCs.

Percent of cancer patients where CTCs collected using the Vortex Technology was above a threshold set by age matched controls.

*Recovery based on spiking in 50 MCF-7 cells into 4 mLs of healthy blood. Your specific experimental conditions should be validated.

1 AACR Conference 2015.
Streamline CTC Isolation

There’s no sample pre-processing needed with the VTX-1 system. Just add a patient blood tube to the disposable cartridge, load it and start the run. The automated process takes less than an hour and you can collect CTCs into an Eppendorf™ tube, Petri dish, slide chamber, or microwell strip.

Load up to 8 mL of whole blood sample into the VTX-1 system for automated processing

In <1 hour collect CTCs for analysis

100–2 CTCs
10⁷ WBCs
10¹⁰ RBCs

GENOMIC ANALYSIS
Patient diagnosis and personalized therapy

IN VITRO CULTURE AND LIVE CELL ASSAY
Drug development and cancer research

CELL STAINING AND ENUMERATION
Patient prognosis and treatment monitoring

PROTEOMICS AND SIGNALING PATHWAYS
Patient assessment and cancer biology

1 AACR Conference 2015.
5 Sinkala E. et al. Nature Communications (2017); In Press.
Find Clinically Relevant CTCs

The VTX-1 system captures CTCs based on their size and deformability without surface markers, labels or reagents. This results in a clinically relevant sample with access to CTCs at different phases of the epithelial-mesenchymal transition.

Gallery of CTCs collected using the VTX-1 system. Cells may be epithelial only (CK/EpCAM+), mesenchymal only (Vim/N-Cadherin+), or transitioning (both). The “mesenchymal CTC clusters” are thought to be a driver of metastasis.
Access Intact Cancer Biology

Cells captured by the VTX-1 system remain viable, giving you direct access to intact, undisturbed cancer biology. So you can explore RNA expression, investigate invasiveness properties and even grow the cells, empowering new approaches in cancer research.

A549 lung cancer cells collected from Vortex system remain viable.
Get Higher Purity for More Sensitive Assays

The VTX-1 system typically collects CTCs with <100 contaminating WBCs per mL of sample processed, which means fewer than 1,000 WBCs in a 10-mL blood tube! This high level of purity increases both the accuracy and sensitivity of downstream genomic assays like Next Gen Sequencing, digital PCR and RNA Sequencing, and enables simpler cell counting and protein biomarker analysis.

The VTX-1 minimizes WBC contamination increasing downstream assay sensitivity. Low WBC counts for stage IV prostate cancer patient samples after CTC capture using the Vortex technology (left). Mutation profile for Colon CTCs compared to matched tumor biopsy results (right). Concordance was seen for the mutation profile for CTCs and tumor biopsy for all mutations except those highlighted in blue.

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As a clinician, I am excited about accessing the cancer biology of patients through CTCs. Vortex’s technology provides the best source of CTCs to aid in the diagnostic and treatment decisions we face every day.

—Dr. Jonathan Goldman
Director of Clinical Trials in Thoracic Oncology,
Associate Director of Drug Development at UCLA Health