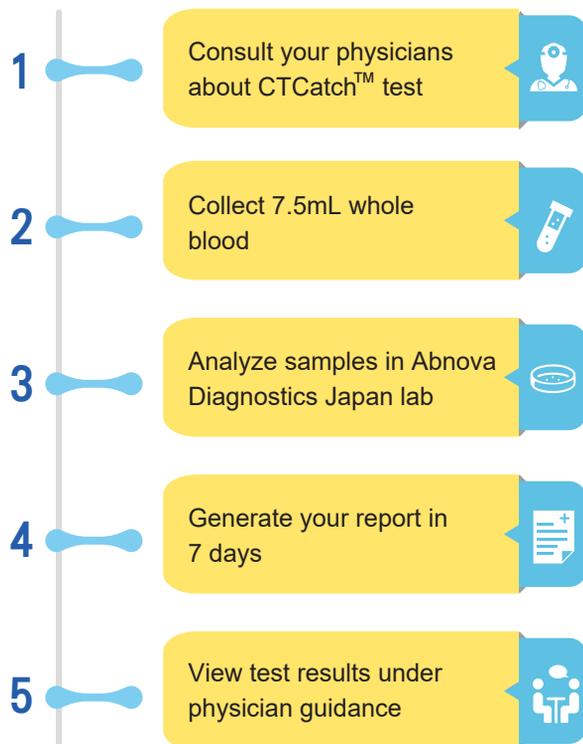


CTCatch™ Test Process



Cell-Surface Vimentin as Cancer-Specific Biomarker for CTCs

Abnova Diagnostics Japan
CTCatch™ Test



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According to updated WHO statistics, the number of new cancer cases is estimated to rise to 22 million worldwide within the next 2 decades. In 2017, cancer is the second leading cause of death globally. Nearly 1 in 6 deaths is due to cancer. Due to increasing cancer cases over the years, the demand of precision medicine for early detection, recurrence and metastasis monitoring, drug guidance, and prognosis is growing.

Cancer Biomarkers CSV vs EpCAM

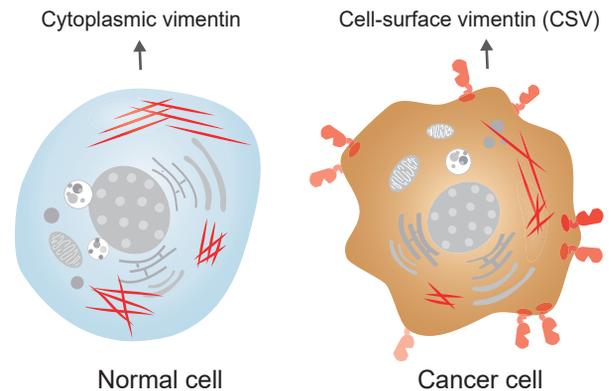
EpCAM

Epithelial cell adhesion molecule (EpCAM) has been approved by FDA as a CTC testing to identify circulating tumor cells (CTCs) in blood, but it has following shortcomings:

1. Normal epithelial cells in blood specimen could be misinterpreted as CTCs.
2. EpCAM expression decreases as CTCs undergo metastasis.
3. EpCAM positive CTCs do not reflect the true risk of metastasis.

CSV

In 2015, University of Texas MD Anderson Cancer Center, United States validated that cell-surface vimentin (CSV) is a epithelial-mesenchymal transition (EMT) marker overexpressed on the cancer cell surface. It is a new and specific marker to identify cancer cells with enhanced mobility. CSV positive CTCs are strongly related to EMT, metastasis, drug resistance and disease relapse.



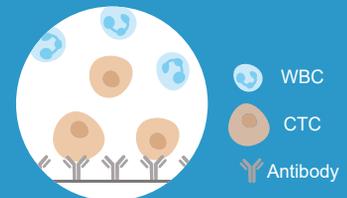
In normal cells, vimentin is a type III intermediate filament protein which constitutes the cytoskeleton in the cytoplasm. CSV overexpression on surface of tumor cells can be used as a specific cancer marker.

Worldwide Exclusive License of CSV Antibody

Abnova Diagnostics Japan has been granted a worldwide exclusive license of the patented CSV monoclonal antibody (clone 84-1, Cat # H00007431-M08) from MD Anderson Cancer Center for CTC detection. This advanced technology can be used in clinical diagnosis of circulating tumor cells, especially in the thriving field of immunotherapy.

Microfluidic Positive Enrichment

Isolate CTCs by a microfluidic chip device coated with cancer marker (EpCAM or CSV) antibody.



With its unique advantage in precision medicine, Abnova Diagnostics Japan has integrated CTC enrichment and CSV antibody technology to develop CTCatch™ for CTC detection. This service can bring new insights into cancer diagnosis, monitoring and treatments.

