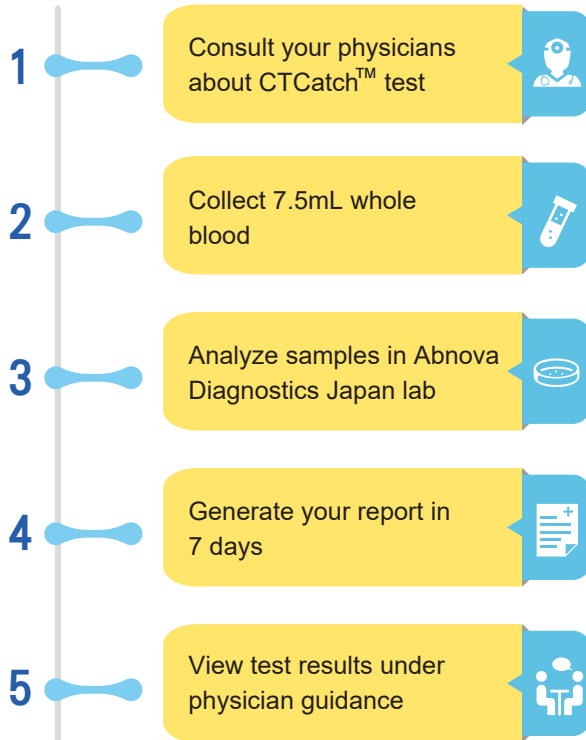


CTCatch™ Test Process



CytoQuest™ CR

Microfluidic System for
Positive Enrichment of CTCs

Abnova Diagnostics Japan
CTCatch™ Test



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CytoQuest™ CR

Non-invasive system for capture, enumeration, isolation and retrieval of circulating tumor cells (CTCs)

Traditional tissue biopsy is performed to access patient's tumor status. Such procedure usually is uncomfortable and invasive, and it also increases the risk of infection to the patient. Tumor also often metastasizes to other tissue organs. As a result, primary tissue biopsy may not provide the complete picture of the tumor progression. A non-invasive and real-time testing of the tumor would be highly desirable for the patients and physicians.

Circulating tumor cells (CTCs) has been validated to be an effective tool for tumor diagnosis, monitoring of recurrence and metastasis, treatment management, and prognosis. CTCs can be identified in the peripheral blood of cancer patients but their number is small compared to the total cell number. Hence, the isolation of CTCs is not an easy task and would require an integrated approach.

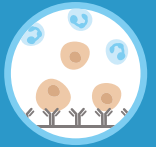
Abnova Diagnostic Japan's CytoQuest™ CR, equipped advanced microfluidic system and thermal controller, is capable to capture rare CTCs. In the era of precision medicine, medical staffs need an effective tool to identify tumor cells from the patient and analyze their protein and genetic attributes which are critical to companion diagnostic and personalized management.

Abnova Diagnostic Japan also introduced a variety of antibodies that can capture tumor cells derived from different cancers. These capturing antibodies can be immobilized on bottom of the chip, allowing CTCs to be captured as they pass through the herringbone microstructure on top of the chip.

Antibody Technology for Cell Capture

Microfluidic Technologies Positive Enrichment

Antibodies can be flexibly interchanged to accommodate different biomarkers of CTCs. Antibodies developed by Abnova Diagnostic Japan can recognize and capture different types of tumor cells with high specificity.



An Integrated System

CytoQuest™ CR utilizes a software-controlled, microfluidic device, antibody immobilized nanoarray, and thermal controller to capture and enrich circulating tumor cells from the blood. Enriched cells are viable and can be used for downstream applications such as molecular analysis or cell culture.



“ Abnova Diagnostics Japan provides integrated solutions for capture, enumeration, isolation and retrieval of CTCs. ”

1 Fluidic Handler

The software-controlled, eight-way valve and fluidic pump provide precise control of sample and buffer flow rates.



2 SCx™ Spiral Chamber

Equipped with a non-sticky coil and a self-contained micro-vibrator, this unique design prevents cells from clumping in the sample as it makes the entry into the chip.



3 HBx™ Micromixer

Herringbone microstructure increases the perturbation of the cells as they traverse through the chip and increase the chances of cells' contact with the immobilized antibodies.

