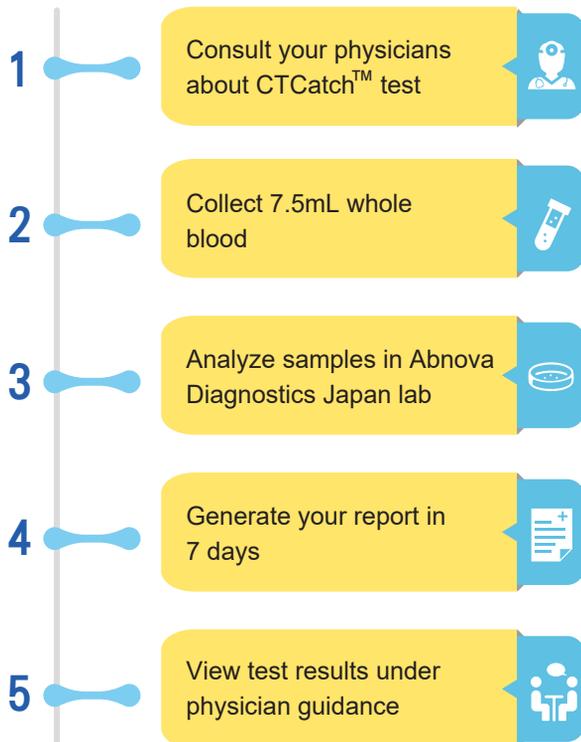


CTCatch™ Test Process



Circulating Tumor Cell Liquid Biopsy for Cancers

Abnova Diagnostics Japan
CTCatch™ Test



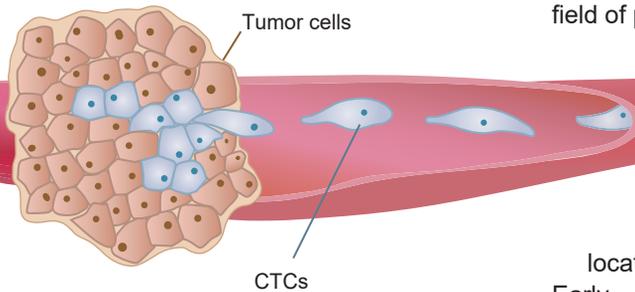
Address: National Cancer Center Research Institute
3F, 5 Chome-1-1 Tsukiji, Chuo-ku, Tokyo 104-0045, Japan

Tel: + 81 3 6264 3448 Fax: + 81 3 6264 3449

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The Discovery of Circulating Tumor Cells

In 1869, circulating tumor cells (CTCs) were firstly observed by an Australian pathologist, Thomas Ashworth.



CTCs shed from the primary tumor or its metastasis into the circulatory system. As biomedical technology thrives, the relationship between CTCs and cancer has been confirmed. CTCs play a key role in the growing field of precision medicine.

Clinical Implication of CTCs

CTCs travel in the bloodstream to other locations during metastasis causing tumor spread. Early detection of CTCs significantly improves diagnosis and disease prognosis.

Identification and Isolation of CTCs

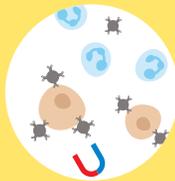
By combining antibody with advanced enrichment technology, CTCs can be isolated and enriched.

The main enrichment method of CTCs is immunological, which includes:



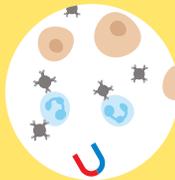
Immunomagnetic Positive Enrichment

Isolate CTCs by immunomagnetic beads coated with epithelial marker (EpCAM) antibody.



Immunomagnetic Negative Enrichment

Deplete white blood cells (WBCs) by immunomagnetic beads coated with CD45 or CD41 antibody, leading to CTC enrichment.



Microfluidic Positive Enrichment

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



Clinical Potential of CTCs

Analyzing CTCs, circulating tumor DNA (ctDNA), and exosomes, and their gene mutations can improve personalized diagnosis, disease monitoring and treatments.

Diagnosis

Genotyping CTCs to profile cancer types and molecular status

Monitoring

Monitoring disease, recurrence and metastasis

Treatment

Analyzing CTCs for therapy guidance and drug resistance

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

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