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Sysmex Opens Lab within the National Cancer Center to Promote the Development of New Cancer Diagnosis Methods

The National Cancer Center (Location: Tokyo, Japan; President: Tomomitsu Hotta) and Sysmex Corporation (HQ: Kobe, Japan; Chairman and CEO: Hisashi Ietsugu) have opened a joint research laboratory within the National Cancer Center Hospital (Location: Tokyo, Japan; Director: Yasuaki Arai) to promote joint development in the field of cancer diagnosis.

In addition to a confirmed cancer diagnosis, cancer treatment requires numerous tests using genes and proteins for drug efficacy prediction, recurrence monitoring and other aspects. In recent years, it has become commonplace to determine the specific qualities of cancer cells and treat cancer effectively by using molecularly targeted drugs. Contributing to this treatment requires the use of companion diagnostic drugs[1] to predict drug efficacy and side effects prior to treatment. In addition, there are calls for the development of new cancer diagnosis methods such as simple blood screening to detect cancer at an early stage.

In September 2013, the National Cancer Center entered into a comprehensive collaboration agreement with Sysmex to develop diagnostic reagents, and the two organizations have conducted joint research to develop new cancer diagnosis methods. To further promote this development of new cancer diagnosis methods, in October 2015 the Sysmex Cancer Innovation Laboratory (SCI-Lab), which meets international standards, opened within the National Cancer Center Hospital.

The SCI-Lab is jointly operated by the National Cancer Center, which specializes in cancer treatment and research, and Sysmex, which possesses leading-edge technologies and instruments for measuring genes, proteins and cells.

January 2016 is the scheduled start of clinical research at the lab that will aim to incorporate comprehensive gene analysis information into routine treatment. This comprehensive genetic analysis will employ a gene diagnostic panel[2] developed by the National Cancer Center (NCC Oncopanel) and a next-generation sequencer[3] for measurement, conducting comprehensive genetic analysis of human specimens (cancer tissue) to conduct research aimed to assist in determining treatment methods and drug administration.

In addition, the lab will collaborate with Sysmex affiliate RIKEN GENESIS Co., Ltd. (HQ: Tokyo, Japan; President & CEO: Yusuke Tsukahara), which is Japan's first registered CLIA[4] lab and has strong quality control to provide highly reliable testing based on CLIA guidelines to perform comprehensive genetic analysis.

The National Cancer Center and Sysmex will pursue closer collaborative development in their joint mission to provide patients with new cancer diagnosis methods as soon as possible, realizing treatments tailored to individual patients.

Overview of the Sysmex Cancer Innovation Laboratory

Name:	Sysmex Cancer Innovation Laboratory (SCI-Lab)
Location:	6F, National Cancer Center Hospital (5-1-1 Tsukiji, Chuo-ku, Tokyo)

Start of operations:　October 2015 (clinical research scheduled to begin in January 2016)
Principal equipment: Next-generation sequencer, PCR[5]

Terminology

1 Companion diagnosis
Testing to predict the efficacy and risk of side effects of specific drugs

2 Gene diagnostic panel
A type of assay that enables simultaneous analysis of the mutation, amplification and combination of multiple diagnostically important genes.
The NCC Oncopanel, a gene diagnostic panel that the National Cancer Center had a key role in developing, was created to diagnose specific, characteristically Japanese genetic mutations.

3 Next-generation sequencer
An analyzer capable of simultaneously reading large quantities of DNA bases and sequences that contain genetic information.

4 U.S. Clinical Laboratory Improvement Amendment (CLIA)
A CLIA lab is certified as conducting testing with quality assurance in accordance with the U.S. Clinical Laboratory Improvement Act standards. CLIA labs are required to undergo periodic inspections to ensure quality maintenance. Being registered as a CLIA lab certifies quality control for testing.

5 PCR
A gene amplification technology for copying small quantities of DNA to produce larger quantities.

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