

April 28, 2022  
Sysmex Corporation

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## Sysmex Employee to Receive “Medal with Purple Ribbon” in Spring 2022 Medal of Honor Awards

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Sysmex Corporation (HQ: Kobe, Japan; Chairman and CEO: Hisashi Ietsugu) employee Toshihiro Mizukami has been selected to receive the Medal with Purple Ribbon, one of the medals of honor to be bestowed in spring 2022, for “The Development of a Method for Measuring Normal Leukocytes and Abnormal Leukocytes.”<sup>1</sup>

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The Japanese constitution defines the awarding of honors as one of the constitutional functions of the Emperor. Honors comprise decorations and medals. In the latter category, the Medal with Purple Ribbon was established in 1955 to recognize inventions and discoveries in scientific and technological fields, as well as outstanding achievements in academia, sports, culture, and the arts.

Blood tests are widely used in screening to examine red blood cells, white blood cells, platelets, and other types of blood cells. By classifying the cells that comprise white blood cells<sup>2</sup> and comprehensively analyzing them for number and proportion, the likelihood of blood cancers like leukemia and malignant lymphoma, as well as infectious and allergic diseases, can be detected. In testing with conventional automated hematology analyzers, accurately detecting abnormal white blood cells that may appear in blood cancers and other diseases is difficult, making visual examination under a microscope necessary. Sample preparation alone takes at least 20 minutes, thus placing a significant burden on clinical laboratory technicians in terms of time and effort.

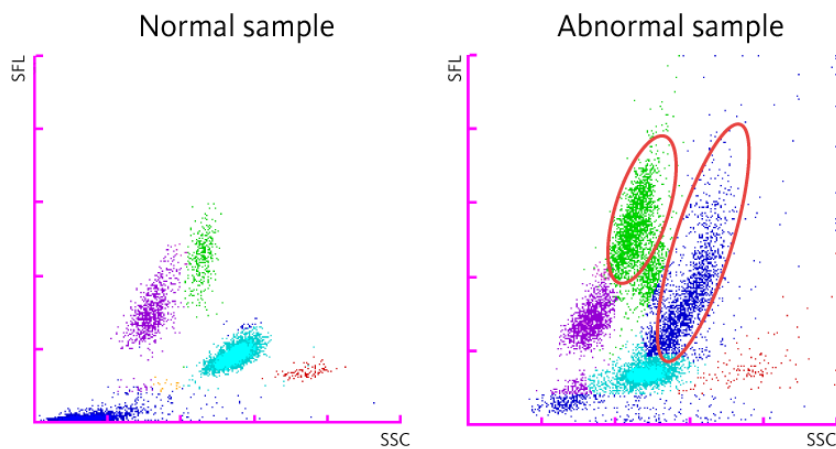
The technology commended by the awards is capable of measuring normal and abnormal white blood cells simultaneously—differentiating, counting and detecting them rapidly with a high degree of precision using flow cytometry.<sup>3</sup>

The ability to determine the likelihood of diseases at the screening stage facilitates their early detection, allowing treatment to be started without delay. In addition, with automated analyzers, results can be obtained in around one minute, dramatically improving testing efficiency and reducing workload, which helps reduce medical expenditures.

The award recognizes the contribution of this technology to greater efficiency and an overall advancement of healthcare. This technology is incorporated in Sysmex’s automated hematology analyzers installed in medical facilities around the world.

### Overview of the Medal Received

Type of Medal:	Medal with Purple Ribbon
Recipient:	Toshihiro Mizukami, Reagent Engineering Division
Achievement:	The Development of a Method for Measuring Normal Leukocytes and Abnormal Leukocytes



**Figure: Detected abnormal white blood cells not seen in normal samples**

### Terminology

- 1 Normal leukocytes and abnormal leukocytes:  
In normal blood samples, only mature (normal) white blood cells are present. When blood cancers or other diseases are present, abnormal white blood cells, such as those that are immature, or atypical cells which are not seen in normal samples, appear.
  
- 2 The cells that comprise white blood cells:  
White blood cells is a collective term for the cells responsible for immunity. They are classified into five types – neutrophils, eosinophils, basophils, monocytes, and lymphocytes.
  
- 3 Flow cytometry technology:  
A method involving the flow dispersion of minute particles and the use of laser light to optically analyze the minute flows. Used primarily to observe individual cells.

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