

# LabH 78

Auto Hematology Analyzer

## Principles

SF-Cube\* method to count WBC, 5-part diff, NRBC, RET and PLT-O

Impedance method for RBC and PLT

Cyanide free reagent for hemoglobin test

\*S: Scatter; F: Fluorescence; Cube: 3D analysis

## Species

Dog, Cat, Horse, Rat, Mouse, Rabbit, Monkey, Pig, Sheep, Camel, Llama,

Alpaca, Goat, Cow, Ferret, Guinea pig, Deer, Dolphin

## Parameters

WBC Group: WBC, Neu(#,%), Mon(#,%), Lym(#,%), Eos(#,%), Bas(#,%) (11 items)

RBC Group: RBC, HGB, HCT, MCV, MCH, MCHC, RDW-SD, RDW-CV, NRBC(#,%) (10 items)

Reticulocyte Group: RET(#,%), IRF, LFR, MFR, HFR, RHE (7 items)

PLT Group: PLT, PDW, MPV, P-LCR, P-LCC, PCT, IPF (7 items)

Parameters vary slightly by species. Please refer to the operation manual

## Sample Type

Whole Blood, Pre-Diluted (Rats and Mice)

## Sample Volume

Whole Blood:  $\leq 70\mu\text{L}$  or  $\leq 48\mu\text{L}$  Micro-Whole Blood;

Pre-Dilute (Close Tube):  $20\mu\text{L}$ ;

## Platelet Detection

Two methods: PLT-I, PLT-O

## Throughput

Up to 110 samples per hour (CBC+DIFF)

Up to 65 samples per hour (RET)

## Sample Barcode Scanning

Fully automatic lateral rotation bar code scanning



Animals Use Only

## Data Storage Capacity

Up to 30,000 results including numeric and graphical information

## Loading Capacity

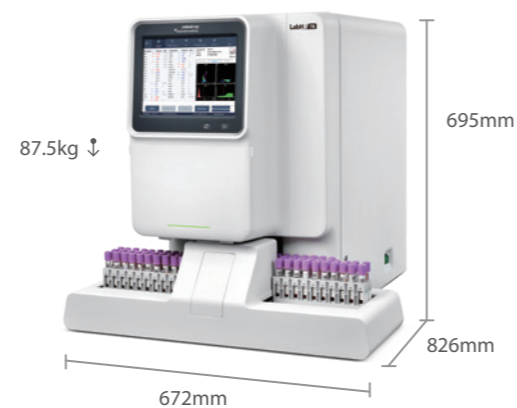
Up to 50 sample tubes

## Operating Environment

Power supply: 110V-220V, Temperature:  $15^{\circ}\text{C}\sim 32^{\circ}\text{C}$

Humidity: 30%~85%, Atmospheric pressure: 70Kpa-106Kpa

\* Remarks: Coming soon, support for upgrade



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# LabH 78

Auto Hematology Analyzer

## Clearer Differentiation Like Never Before





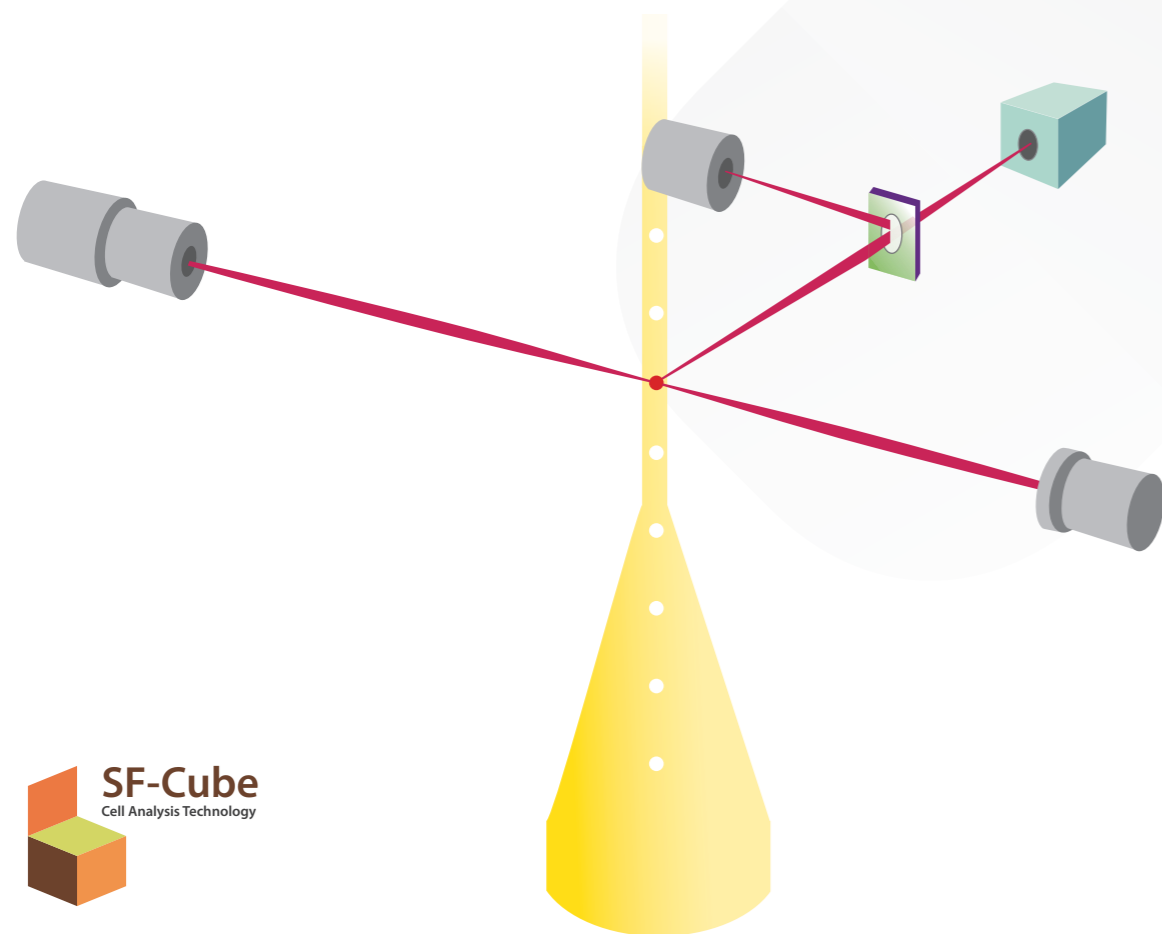
**20+**  
Years of Standardized Laboratory Management



**30+**  
Years of Hematology Analyzer Development



**40+**  
Innovative Technologies and Intelligent Platforms for New Advanced Automated Animal Hematology Analyzers



Mindray Animal Medical is committed to using the latest in scientific innovation and the highest quality standard in animal care to develop leading edge hematological analyzers specifically for animal medical care. Mindray Animal Medical strives to advance scientific excellence continuously.

Mindray's patented SF-Cube technology (3D cell analysis) utilizes forward, side-scatter and fluorescent signals. The LabH 78 facilitates precision detection of animal white blood cells, nucleated red blood cells and reticulocytes, and can also detect abnormal blood cells.

The LabH 78 has transformed veterinary hematology through innovation and advanced technology with its high performance design and exceptional reliability, thanks to highly effective parameters proven to be clinically relevant. In addition to core laboratory applications, its built-in multi-species settings satisfy facilities in veterinary scientific research and reference laboratories.

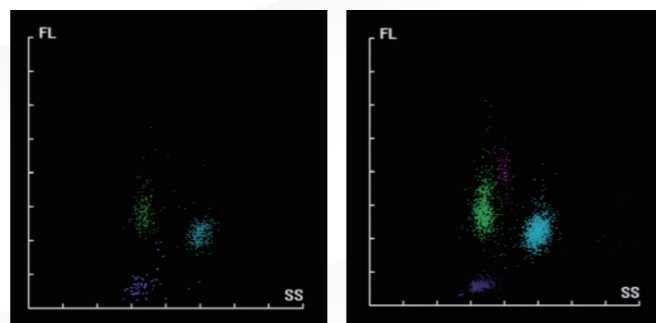


# Precision 3D Technology



## Automated WBC Multiplier Counts

Automatically increases the number of cells analyzed for low-value samples, thereby improving the accuracy of classification and alarm information.

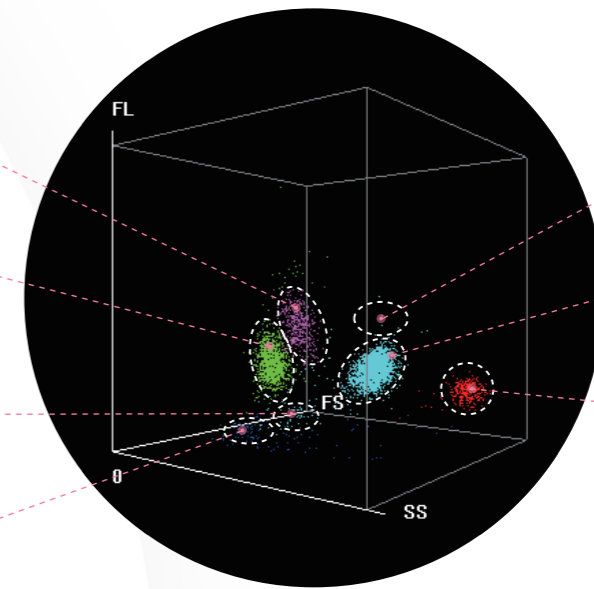


MON%

LYM%

NRBC

PLT Clump

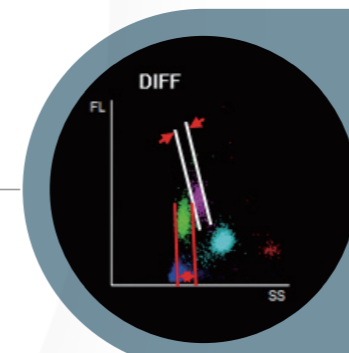


Left shift

(NEU+BAS)%

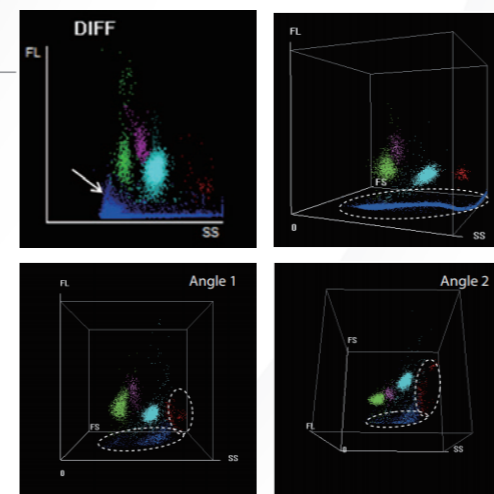
EOS%

SF-Cube 3D analysis technology is combined with a time dimension to create space-time analysis, which can accurately classify white blood cells. Screening for abnormal cells is enhanced and anti-interference capability is also significantly improved.



## Boundary Fitting

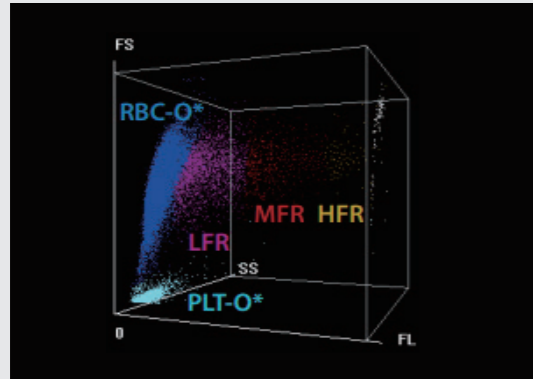
Overcomes the presence of lymphocytes and monocytes in two-dimensional animal blood fields, attaining precise classification of white cells.



## Interference Prevention

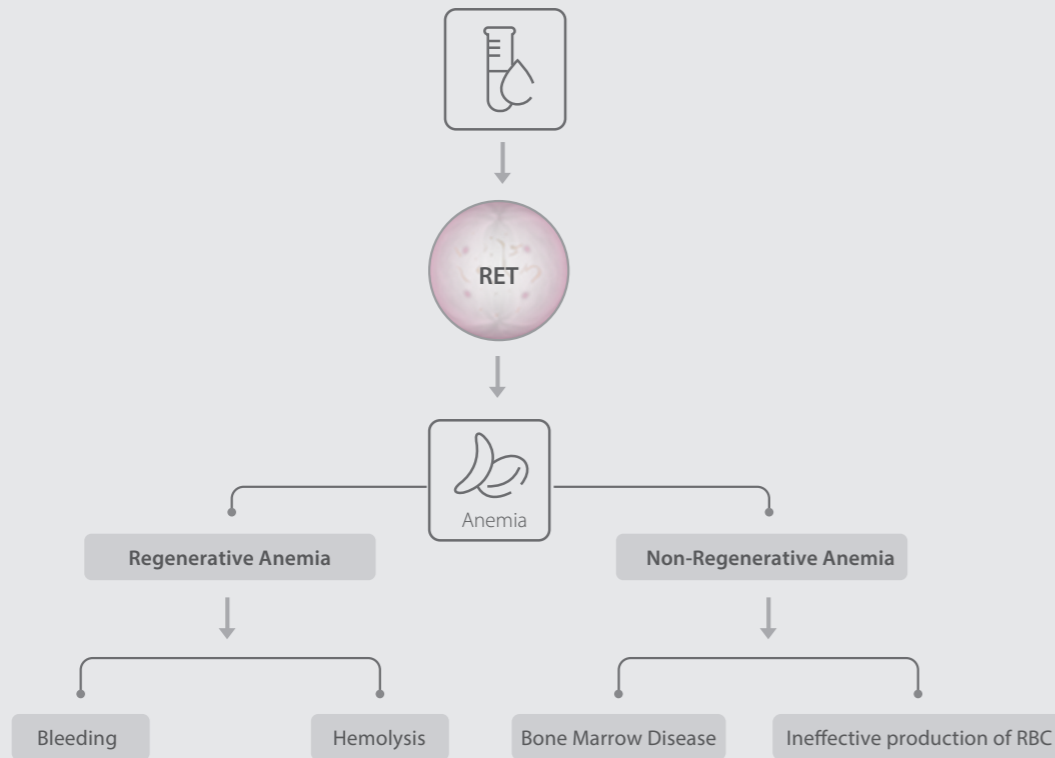
In a DIFF scattergram, only WBCs are stained by fluorescent dyes, whereas lipid particles are not. This prevents interference and ensures more accurate WBC results. With information obtained through 3D analysis, PLT clumps are well separated from each cluster of WBCs.

# Advanced Reticulocyte Measurement



Anemia refers to a reduced number of red blood cells in the systemic circulation below the normal value. It is one of the most common clinical manifestations, but is not a medical condition in itself. However, it can be a symptom of a more complex disease.

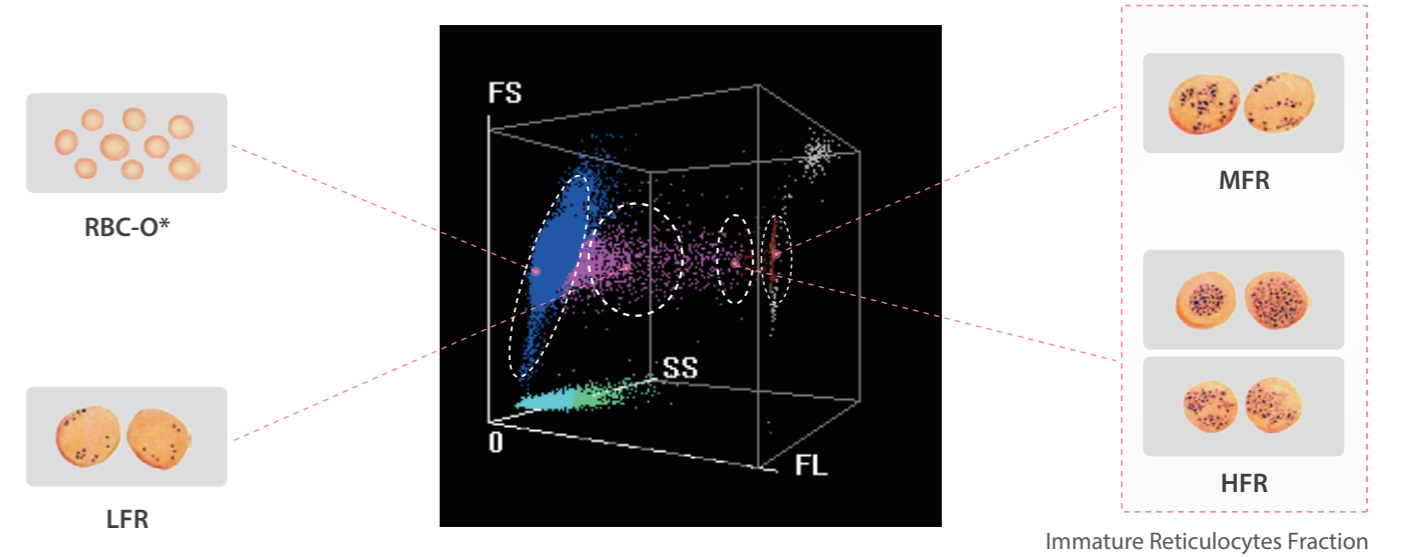
Its occurrence must always be ascertained. Bone marrow reactivity can be determined and used to classify it as aplastic anemia or non-regenerative anemia.



- Aplastic Anemia** In anemia, the number of new red blood cells produced by the bone marrow increases.
- Non-regenerative anemia** In anemia, red blood cells are not produced or are produced less in the bone marrow.

The reticulocyte count (RET#) is an important indicator used to distinguish between regenerative anemia and non-regenerative anemia.

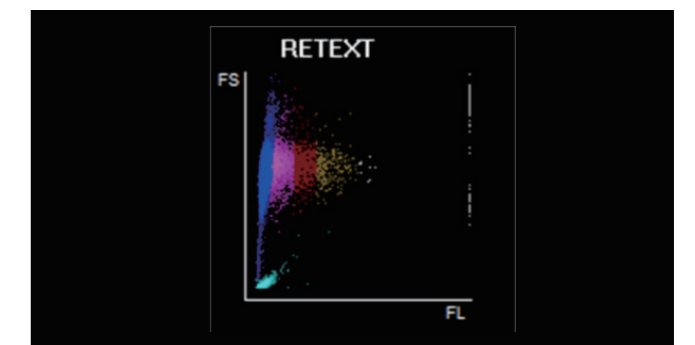
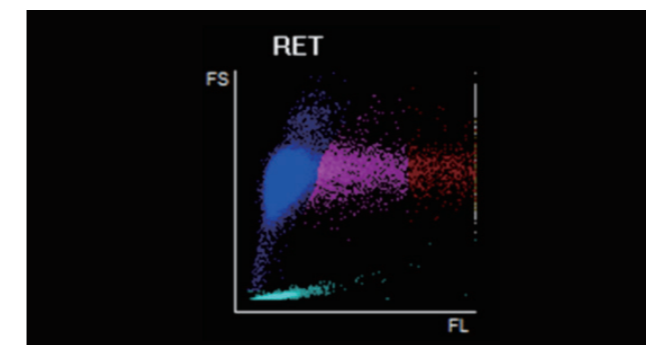
Provides more comprehensive RET parameters to assist in making a clinical diagnosis.



- RHE** (Reticulocyte Hemoglobin Expression) Provides clinical evidence for the differential diagnosis and monitoring of iron deficiency anemia.
- IPF** (Number of immature platelets) This parameter can be used to guide platelet transfusion and monitor the progress of platelet production.

New FR dyes, improved RET detection performance

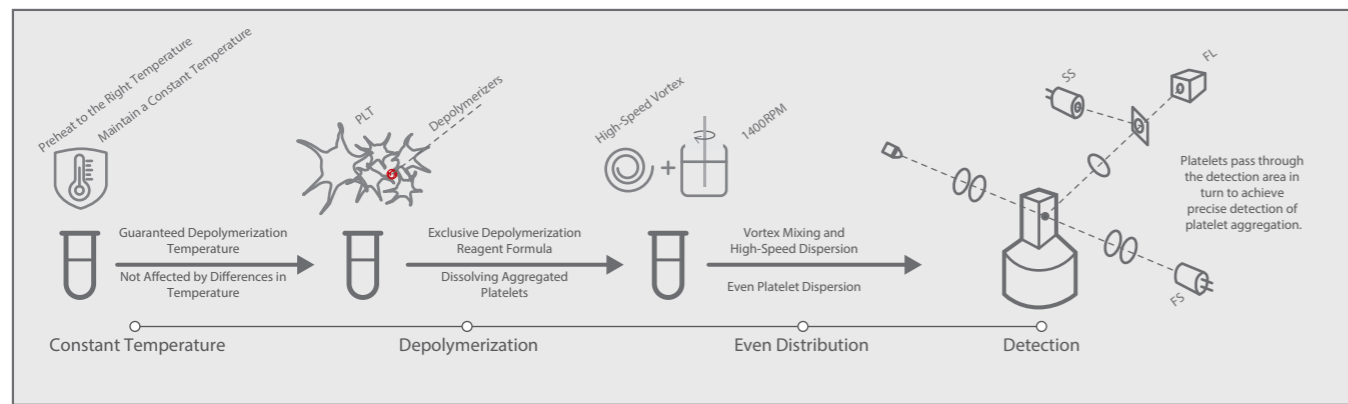
By improving the ability of fluorescent dyes to recognize RNA, the response of fluorescent dyes to DNA is reduced. The specificity of new FR fluorescent dyes for nucleic acids has been greatly improved. Sensitivity has also been significantly enhanced.



# Innovative PLT Technology

## New PLT Interference Technology

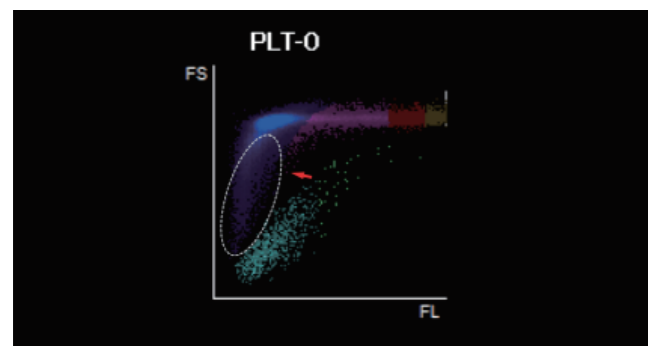
One of the common clinical causes of animal platelet aggregation in vitro is EDTA-dependent pseudo-thrombocytopenia. Solving our customers' professional 'pain points' drives our pursuit of excellence. Mindray's platelet aggregation self-processing technology is based on the analysis of authoritative cases and expert opinions. After 6 years, we have successfully overcome the problems affecting clinical examination caused by platelet aggregation.



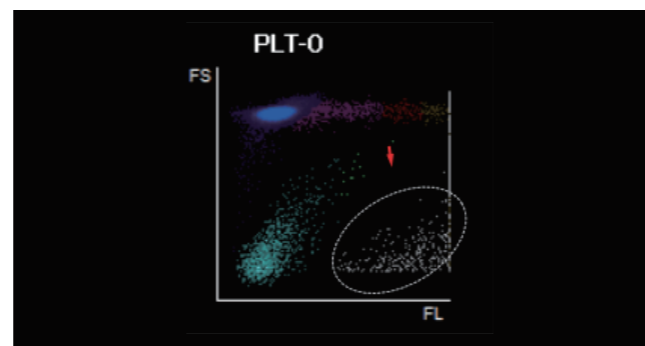
The aggregation self-processing technology can solve the problem of false low-values for platelets caused by EDTA-PTCP.

## Precise positioning of fluorescent dyes to discriminate between true and false low values

High-efficiency fluorescent dyes enhance the specificity of targeted cells, accurately capturing nucleic acid in PLT cells and precisely pinpointing platelets. This process avoids interference from small red blood cells, red blood cell fragments, and white blood cell fragments on platelet detection, while bringing the immature platelet ratio closer to a clinically true value.



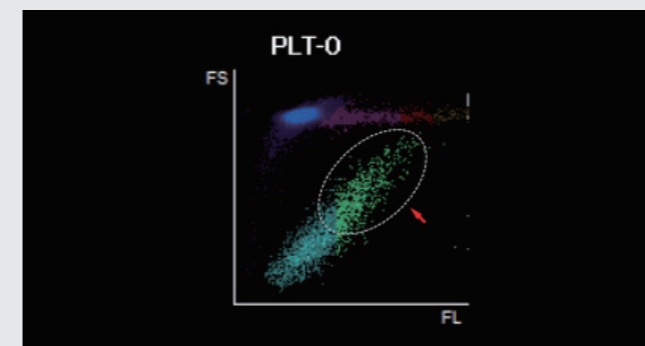
Small RBC/RBC Fragment Interference



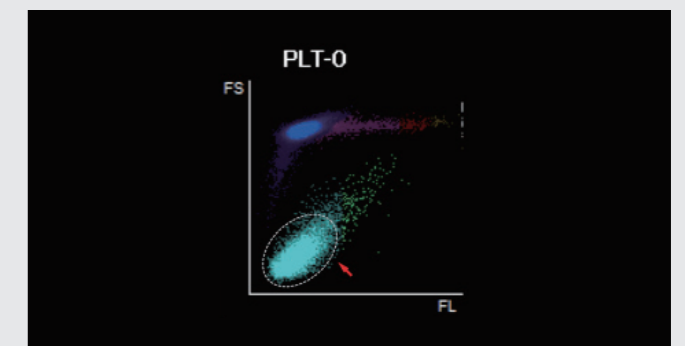
WBC Fragment Interference

## Greater accuracy in the detection of large platelets and less risk of small platelets going undetected.

Original innovative design of reflected light suppression technology and SiPM (silicon photo multiplier) with high sensitivity to fluorescence detection. The design significantly improves the resolution of microparticles, with a recognition rate for small particles of 1µm, which ensures that sample results are not affected by either large platelets or small platelets. This overcomes the issue of falsely low platelet readings due to missed detection of large or small PLTs.



Immature PLT Sample\*



Small PLT Sample



## User-Friendly, Easy Operation



### Automatic Identification of Predefined Species

Species are predefined to enable automatic identification without the need for manual intervention.

Sufficient clinical verification and complete set of reference ranges for scientific research and clinical use.



### High Throughput, High Efficiency

110 Tests/Hour, RET: 65 Tests/Hour

LabH 78 can load up to 50 samples at a time and sample loading can be performed continuously.

2 Counting modes: STAT priority tests enable improved sample processing capacity.



### Low Sample Volumes for Precision Testing

70 $\mu$ L whole blood or 48 $\mu$ L Micro-Whole Blood can be used for WBC DIFF, NRBC, RET and other related parameter detection, as well as low-value white blood cells and low-value platelet detection.



### Automatic Rerun & Reflex

According to clinical requirements, re-examination rules are set in advance for greater flexibility. For abnormal samples, the analyzer automatically reruns or reflexes, which can be completed in just 2 minutes, saving 80% of the time required for a routine rerun.



### Easy to Maintain

Minimal maintenance is required. A daily probe cleanse is easily performed while intelligent system maintenance can be initiated by one simple tap on the screen.