



# BC-6800

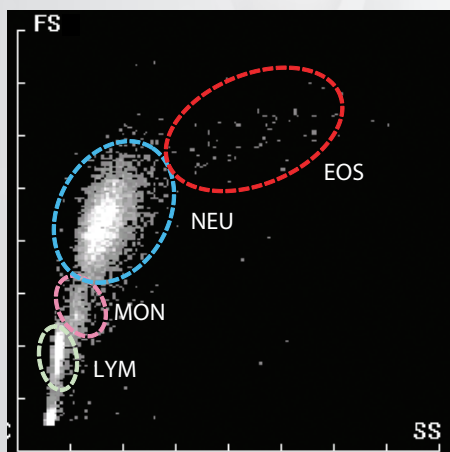
Auto Hematology Analyzer

**Small Cube, Big Difference**

**mindray**  
healthcare within reach

# Small Cube, Big Difference

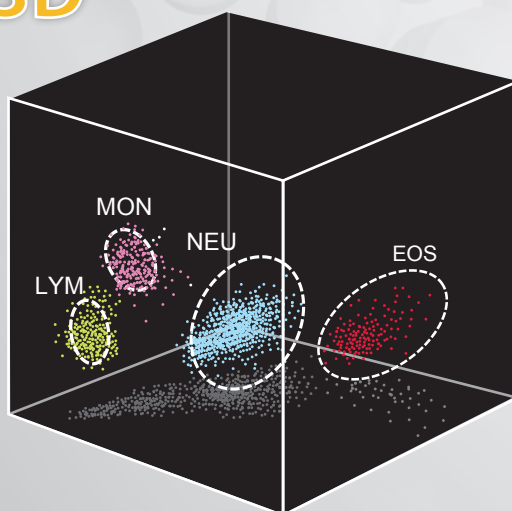
2D



Forward scatter

+ Side scatter

3D



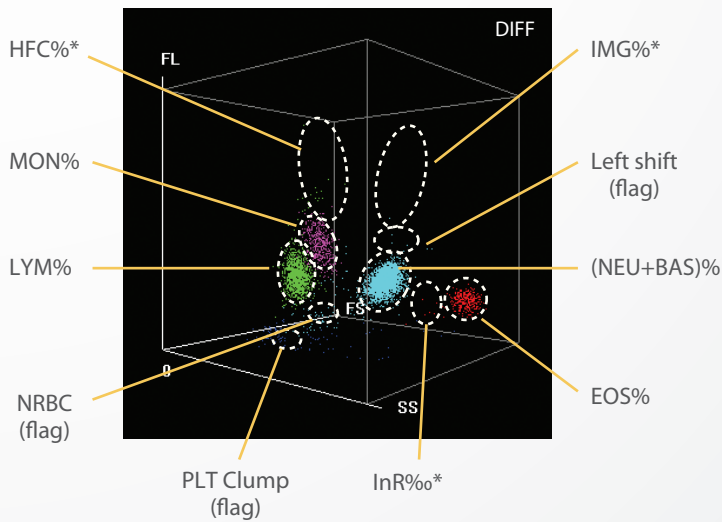
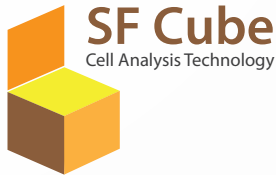
Forward scatter

+ Side scatter

+ **Fluorescence**

In 2D scattergram, the cell clusters appear close to each other. Whereas with the 3D scattergram, clusters are well separated which helps in detecting abnormal cells, if any.

# Small Cube, Big Difference

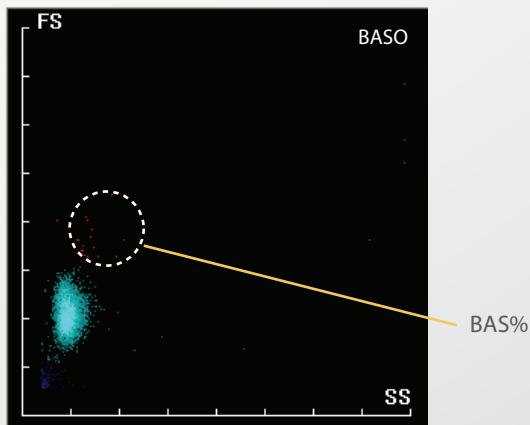


DIFF scattergram of BC-6800 differentiates WBCs into 4 parts and also provides valuable parameters like HFC\*, IMG\* InR\* and Abnormal Flags such as Left shift, NRBC, PLT Clump, Atypical Lymphocyte.

IMG\*(#, %) provide information about the presence of immature granulocytes, if any, including promyelocytes, myelocytes, metamyelocytes, immature eosinophils and immature basophils.

HFC\*(#, %) parameters alert the user of the presence of high fluorescent cell population, if any, such as blasts and atypical lymphocytes.

\* for Research Use only



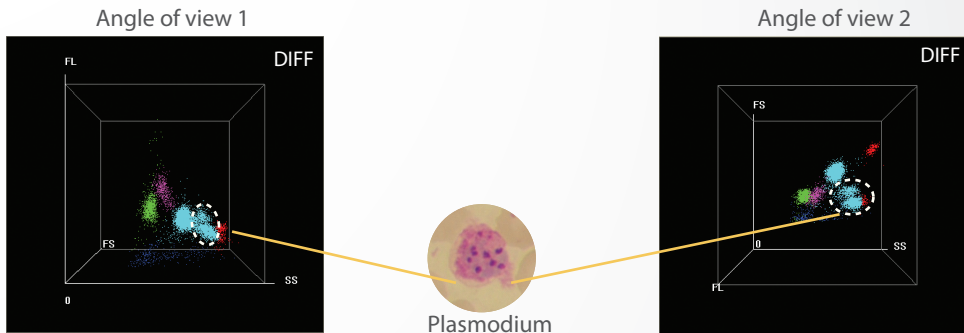
Basophils are counted in a dedicated channel that detects information about cell volume and cellular complexity. This provides more accurate and reliable basophil results.

**BC-6800**

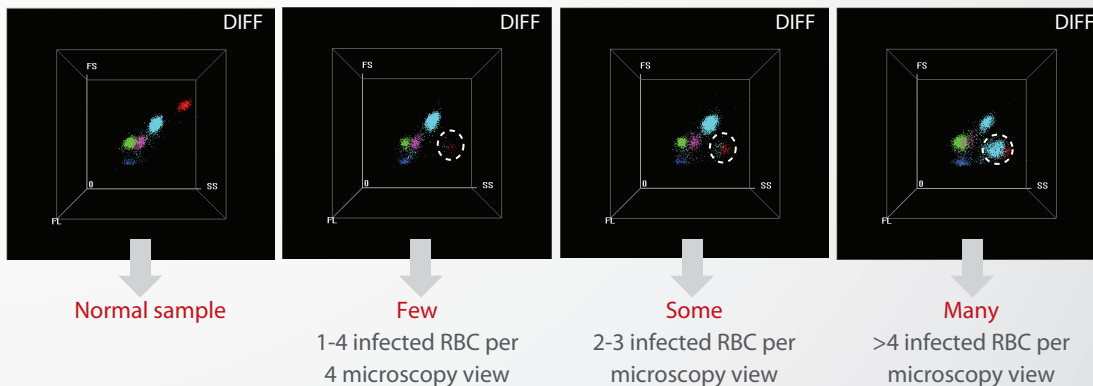
**Auto Hematology Analyzer**



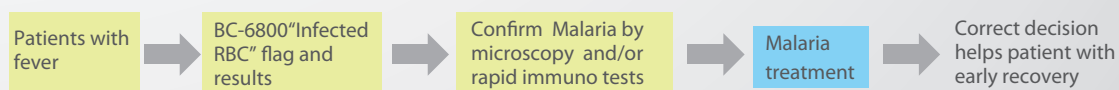
# Malaria screening



BC-6800 provides dedicated flags called “infected RBC?” and “InR\*(#,%)” parameters to represent the number and ratio of the infected red blood cells in the blood sample. BC-6800 user can obtain information about the presence of plasmodium parasite, which is the causative agent of malaria infection.



With the rising number of infected red blood cells due to malaria parasites, the amount of dots in the “InR” area increase proportionately. This creates the possibility to not only screen but also judge the severity of malaria infection.

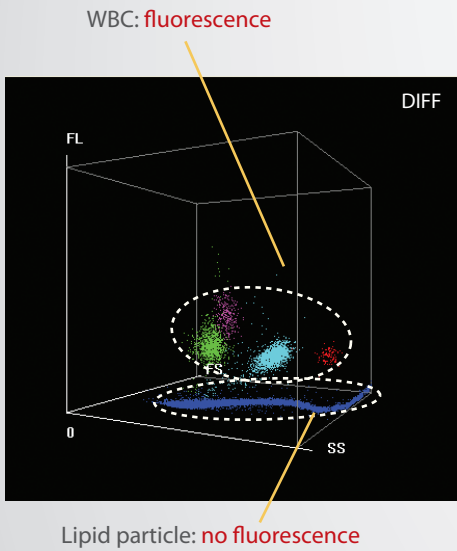


Since blood examination is almost always required for patients with fever, and given the increasingly wider use of automated hematology analyzers to analyze blood, an automated method with good sensitivity & specificity to screen for the presence of malaria parasites would be highly desirable and would prove to be practical and economical as it would lead to eventual detection of malaria even in unsuspected cases.

BC-6800 increases the laboratory’s efficiency for malaria detection and facilitates an earlier therapeutic intervention leading to quicker recovery for the patient.

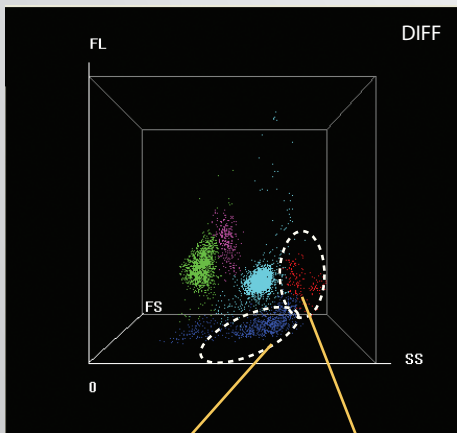
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# Interference prevention



In DIFF scattergram, lipid particles are not stained by fluorescent dye while WBCs are. This difference prevents interference and ensures more accurate WBC results.

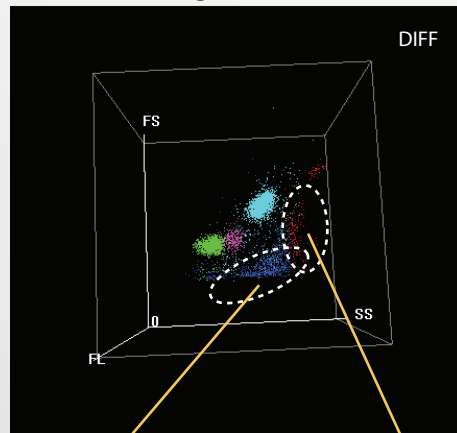
Angle of view 1



The PLT clump seems mixed up with Neutrophil

The PLT clump seems mixed up with Eosinophil

Angle of view 2

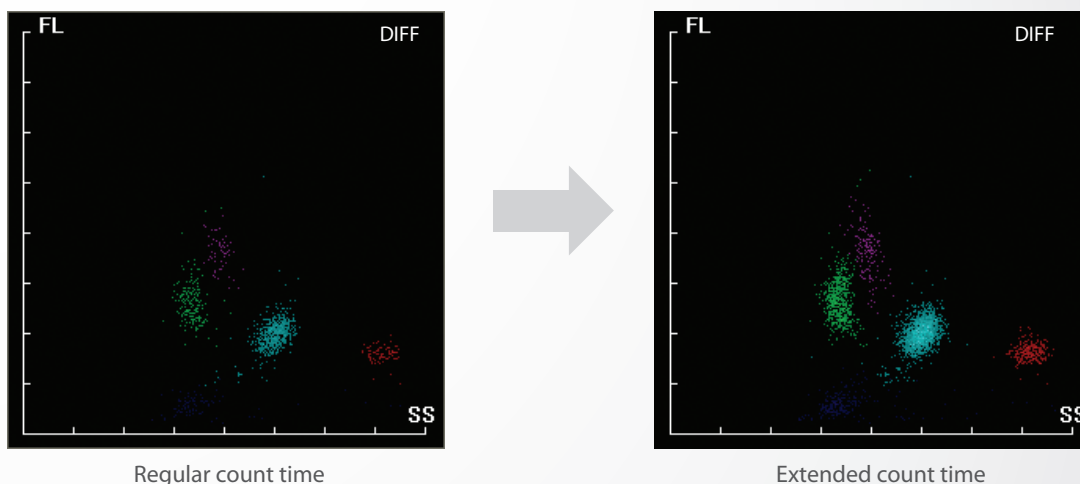


The PLT clump is well separated from Neutrophil

The PLT clump is well separated from Eosinophil

The combination of 3D information helps in the separation of PLT clumps from clusters of WBCs.

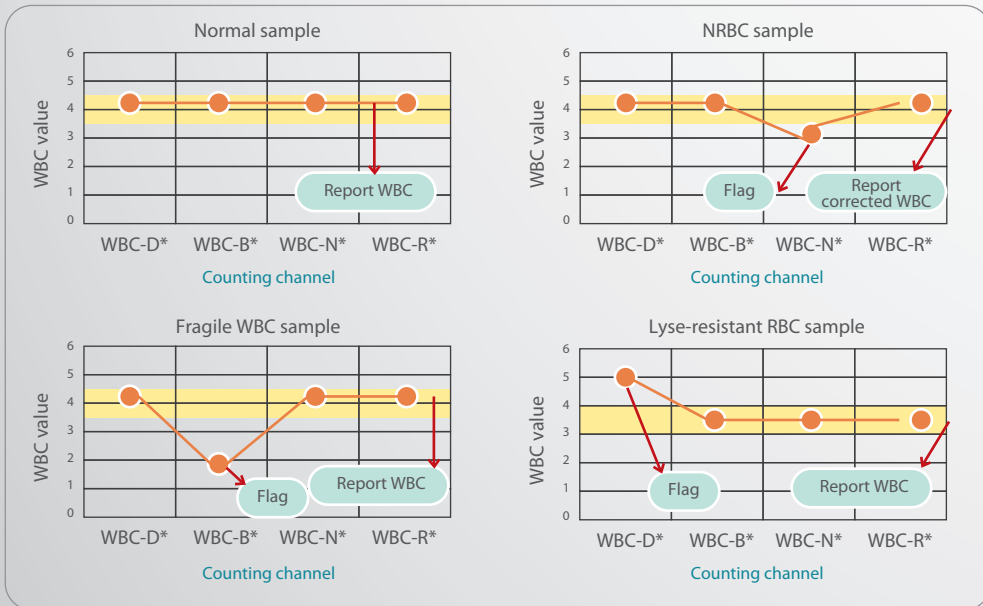
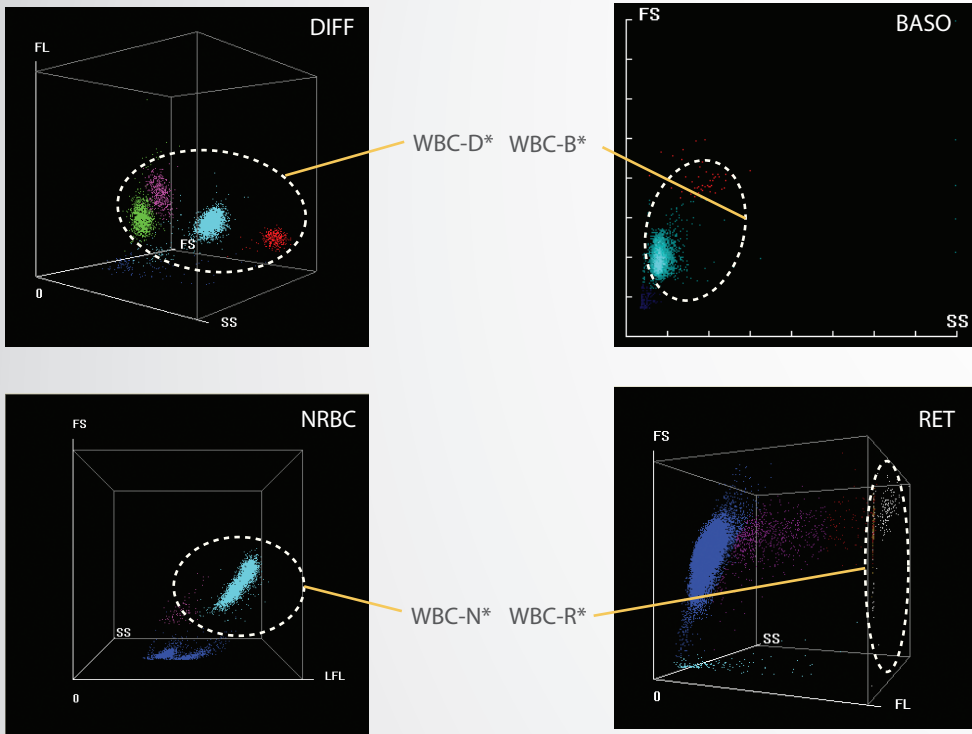
# Extended count time



For leucopenic samples ( $WBC < 1.5 \times 10^9/L$ ) or capillary blood samples, BC-6800 is designed to automatically extend count time to 3 folds. This increases the number of cells counted significantly and improves the accuracy and reliability of WBC counts and WBC 5-part differential results.



# 4 WBC counting channels

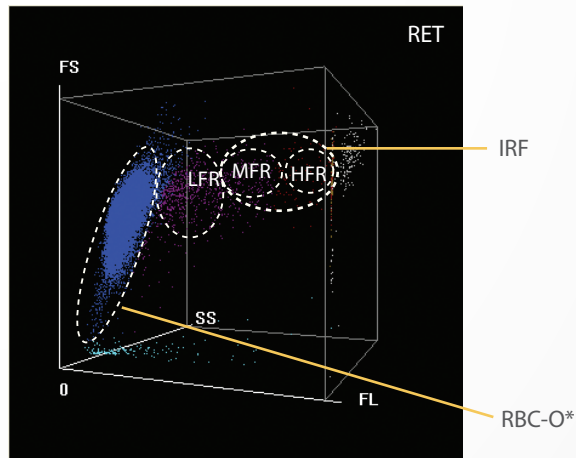


BC-6800 has 4 dedicated counting channels for the WBC measurement to prevent interferences from the presence of lipid particles, lyse-resistant RBCs, PLT clumps and NRBCs. This increases the reliability of WBC data.

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# Reticulocyte detection



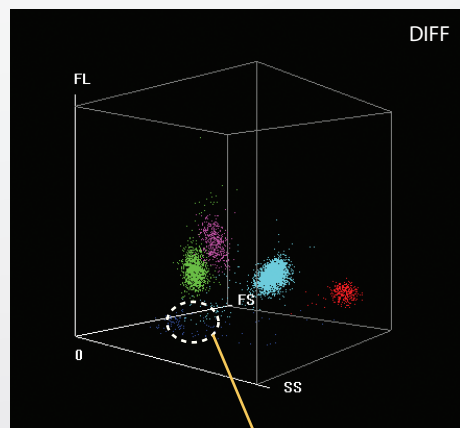
In the SF Cube cell analysis technology, reticulocytes are differentiated from mature red blood cells by their reaction with fluorescent stain. Besides the traditional parameters such as RET# and RET%, BC-6800 also provides additional data concerning immature reticulocytes (IRF), which assists in early diagnosis of anemia and monitoring the bone marrow response to hematinic therapy.

\* for Research Use only

# NRBC flag & detection

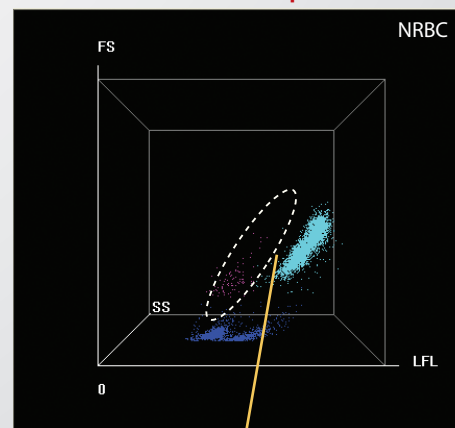
In routine CBC test, BC-6800 can flag "NRBC", if they are present in the sample. The actual number of NRBCs can then be measured in a dedicated counting channel to obtain accurate quantitative NRBC#. This helps reduce the cost of counting NRBCs in the samples without the "NRBC" flag.

1<sup>st</sup> step



NRBC flag

2<sup>nd</sup> step



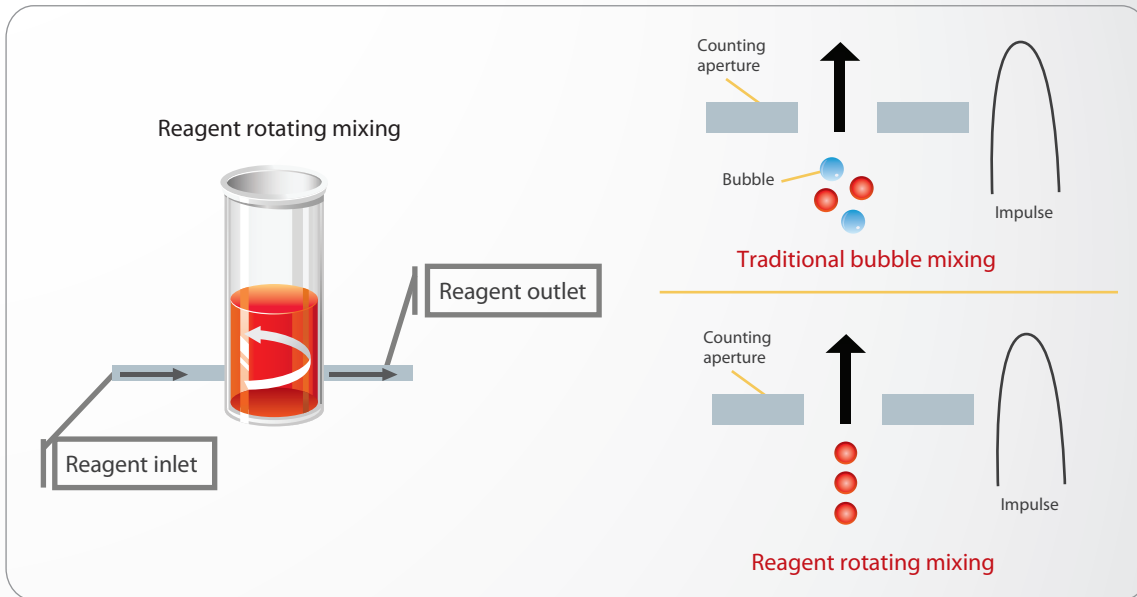
NRBC counting

# BC-6800

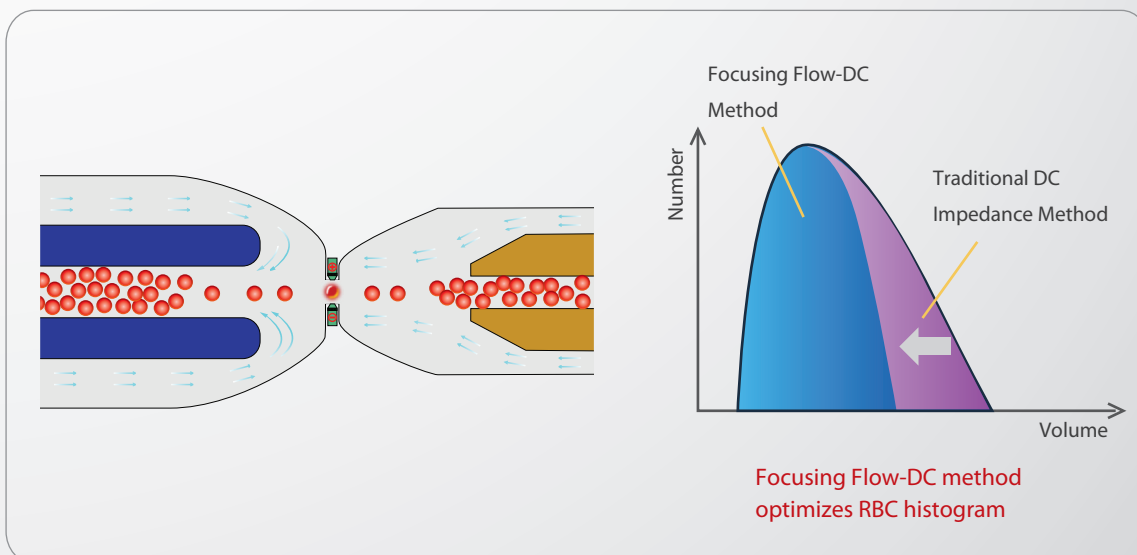
## Auto Hematology Analyzer



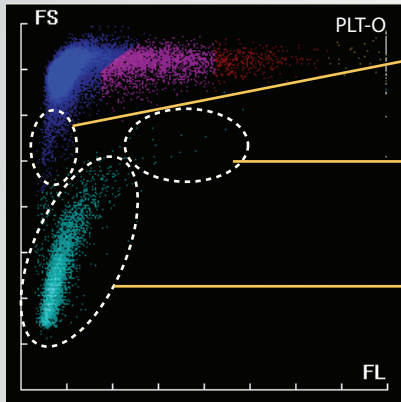
# RBC/PCT detection



The rotating mixing prevents bubble formation, a problem with traditional bubble mixing, ensuring more accurate RBC result.



The Focusing Flow-DC process minimizes the interference traditionally encountered in DC technology and produces a near Gaussian histogram. Because of this, histogram related parameters like MCV, RDW-CV, RDW-SD are more accurate and provide clinically useful information.



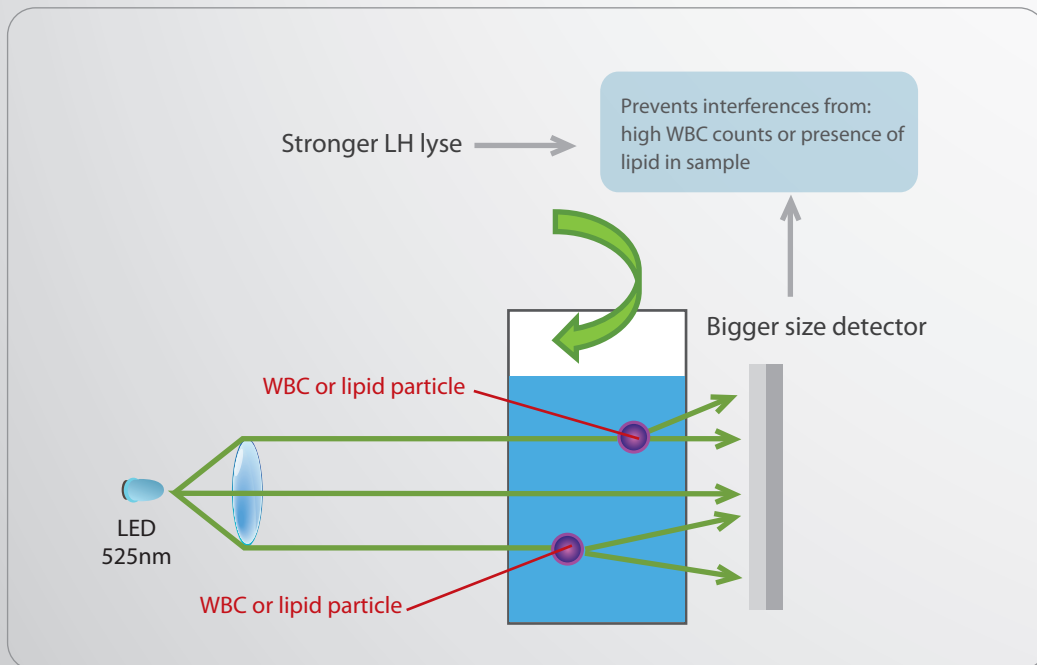
Optical + Fluorescence measurement

Microcytic or fragmented RBCs  
 Large PLT  
 PLT-O\*

PLT-O\* result is free from the interference from microcytic & fragmented RBCs, and large platelets because of fluorescent staining. This enhances data accuracy and sensitivity. PLT numeric result is corrected automatically when PLT-O\* counting mode is employed.

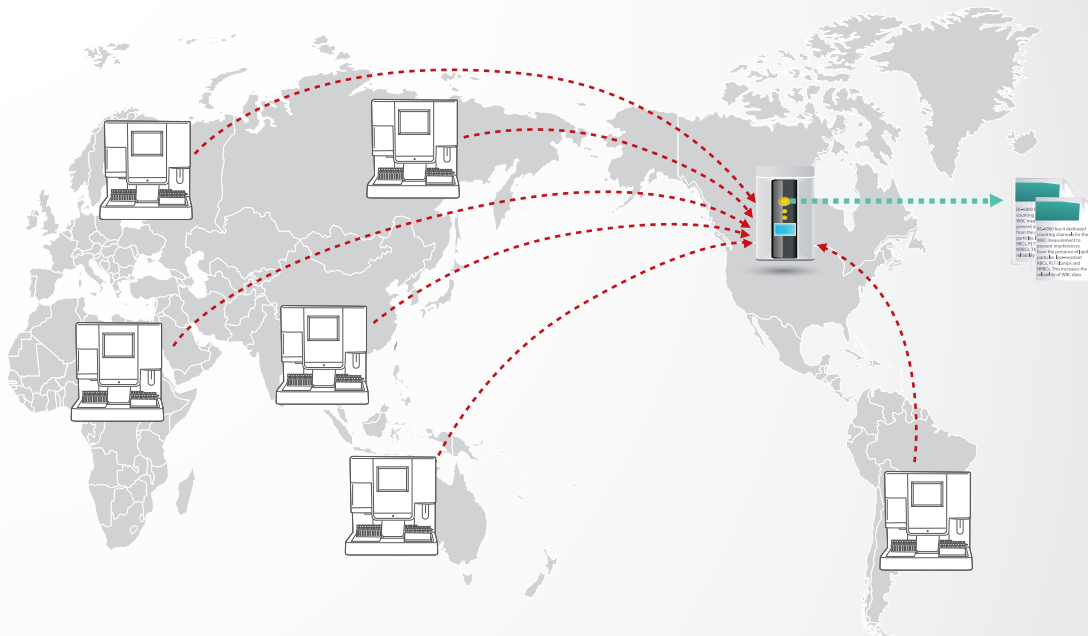
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## HGB detection



The lens converts divergent rays of the incident light to parallel, which increases precision of HGB measurement. Combined with stronger LH lyse and bigger detector that minimizes the interference from high WBC and lipids, BC-6800 provides more reliable HGB result.

# Interlaboratory quality control

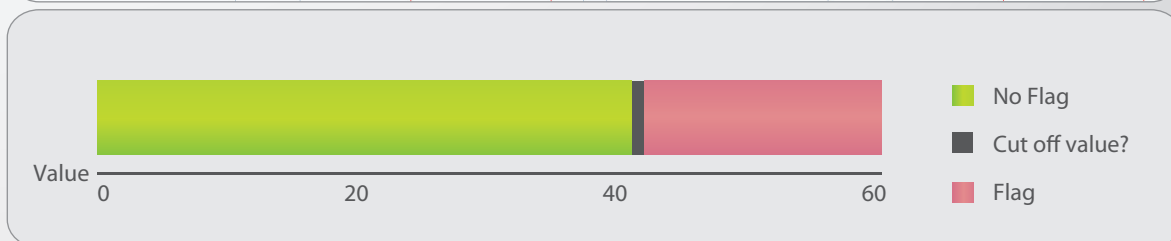


CBC-Monitor™ is the inter-laboratory quality control process which is essential for higher lab quality assurance system.

CBC-Monitor™ can provide user labs with evaluations on its analytical performance and comparison with other peer labs using the same measurement instrument/process.

## i-Message

General	WBC	RBC	Result Compare	Microscopic Exam.	RUO Para.	Intraday repeated results	Patient Info.	i-Message				
Para.	Value	0	10	20	30	40	50	60	70	80	90	100
Blasts?	0											
Immature Gran?	24											
RBC Lyse Resistance?	5											
Abn. Lymph/blast?	16											
Turbidity/HGB Interference?	34											
Fragments?	0											
Left Shift?	53											
Atypical Lymph?	8											
NRBC?	12											
RBC Agglutination ?	30											
Iron Deficiency?	32											
PLT Clump?	5											

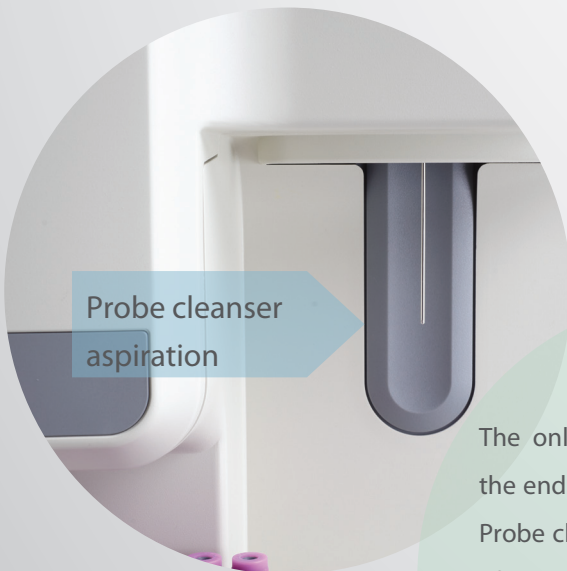
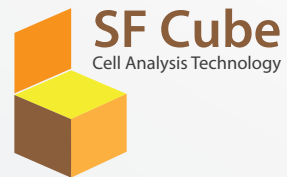


“i-Message” provides more quantitative and comprehensive information about the severity of the abnormality for corresponding suspect flags. This helps the BC-6800 users, not only to identify the blood samples that are flagged, but also to judge the extent of abnormality.

# Easy maintenance



A reagent compartment for loading fluorescent reagents is located on the left front of BC-6800. This makes replacement of fluorescent reagents very convenient for the operator.



The only maintenance expected from the end user is a daily shut down using Probe cleanser or using it once per day (if instrument is not shut down).

In case of 'no shut down', the "auto-protect" program reminds the operators when the maintenance is due.

# Easy to use

SPU with touch screen is used for sample processing, including QC, calibration & maintenance. DMU by PC is used for data management only. the PC software allows easier operation and wider application.



**SPU**  
Sample Processing Unit

**DMU**  
Data Managing Unit

mindray

# BC-6800

## Auto Hematology Analyzer

### Technical Specifications:

#### Principles

SF Cube cell analysis technology for WBC, 5-Part diff, NRBC, RET and PLT-O  
Focusing Flow-DC method for RBC and PLT  
Cyanide free hemoglobin measurement

#### Parameters

33 reportable parameters: WBC, Lym%, Mon%, Neu%, Bas%, Eos%, Lym#, Mon#, Neu#, Eos#, Bas#; RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, RET%, RET#, IRF, LFR, MFR, HFR, NRBC#, NRBC%; PLT, MPV, PDW, PCT, P-LCR, P-LCC

14 research parameters: HFC#, HFC%, IMG#, IMG%, WBC-R, WBC-D, WBC-B, WBC-N, RBC-O, PLT-O, PLT-I, PDW-SD, InR#, InR%<sub>0</sub>

2 histograms for RBC and PLT

3 scattergrams (3D) for DIFF, NRBC and RET

6 scattergrams (2D) for DIFF, BASO, NRBC, RET, RET-EXT, PLT-O

#### Performance

Parameter	Linearity Range	Precision	Carryover
WBC	0-500×10 <sup>9</sup> /L	≤2.5% (≥4×10 <sup>9</sup> /L)	≤1.0%
RBC	0-8×10 <sup>12</sup> /L	≤1.5% (≥3.5×10 <sup>12</sup> /L)	≤1.0%
HGB	0-250g/L	≤1.0% (110-180g/L)	≤1.0%
HCT	0-75%	≤1.5% (30%-50%)	≤1.0%
PLT	0-5000×10 <sup>9</sup> /L	≤4.0% (≥100×10 <sup>9</sup> /L)	≤1.0%
RET#	0-0.8×10 <sup>12</sup> /L	≤15% (RBC≥3×10 <sup>12</sup> /L; 1%≤RET%≤4%)	/

#### Sample Volume

Predilute mode (capillary blood), Open vial 40μL  
Manual mode (whole blood), Open vial 150μL  
Autoloader mode (whole blood), Closed vial 200μL

#### Throughput

Up to 125 samples per hour (CBC+DIFF)  
Up to 90 samples per hour (CBC+DIFF+RET)

#### Loading capacity

Up to 100 sample tubes

#### Mode

CBC, CBC+DIFF, CBC+RET, CBC+NRBC, CBC+DIFF+RET,  
CBC+DIFF+NRBC, CBC+DIFF+RET+NRBC, RET

#### Data storage capacity

Up to 100,000 patient results including all numeric and graphical information

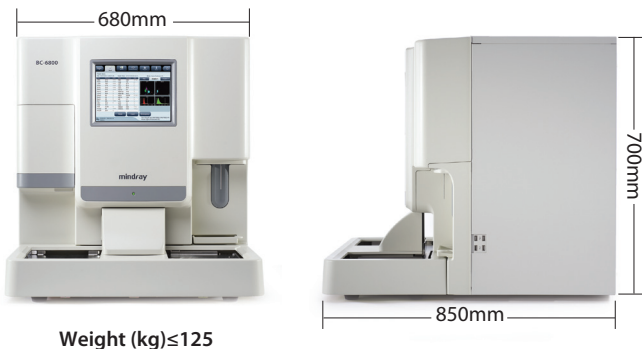
#### Printout

Various printout formats and user-defined formats available

#### Operating environment

Temperature: 15°C~32°C

Humidity: 30%~85%



Weight (kg)≤125

Blutgaskontrollen  
Diagnostica  
Durchflußzytometrie-  
kontrollen  
Hämatologiekontrollen  
Hard- und Software  
Industriebedarf  
Kalibratoren

Kontrollseren  
Kunststoffartikel  
Laborbedarf  
Laborgeräte  
Mikrobiologie  
Reagenzien  
Referenzkontrollen  
Schnelltests

# mindray

Mindray is listed on the NYSE under the symbol "MR"

Mindray Building, Keji 12th Road South, High-tech Industrial Park,  
Nanshan, Shenzhen 518057, P.R. China

Tel: +86 755 8188 8998 Fax: +86 755 26582680

E-mail: intl-market@mindray.com Website: www.mindray.com



<http://www.keul.de>

## Günter Keul GmbH

Telefon 02551/2097  
und 02551/2098  
Telefax 02551/80883  
E-Mail info@keul.de

Von-Langen-Weg 10  
D-48565 Steinfurt