



Hemaray83/86 5 Part Hematology Analyzer

---- 2016



Blood Cell Introduction

Rayto 5-diff Test Method

Rayto 5-diff General Overview

Outstanding Features

Competition



Blood Cell Introduction

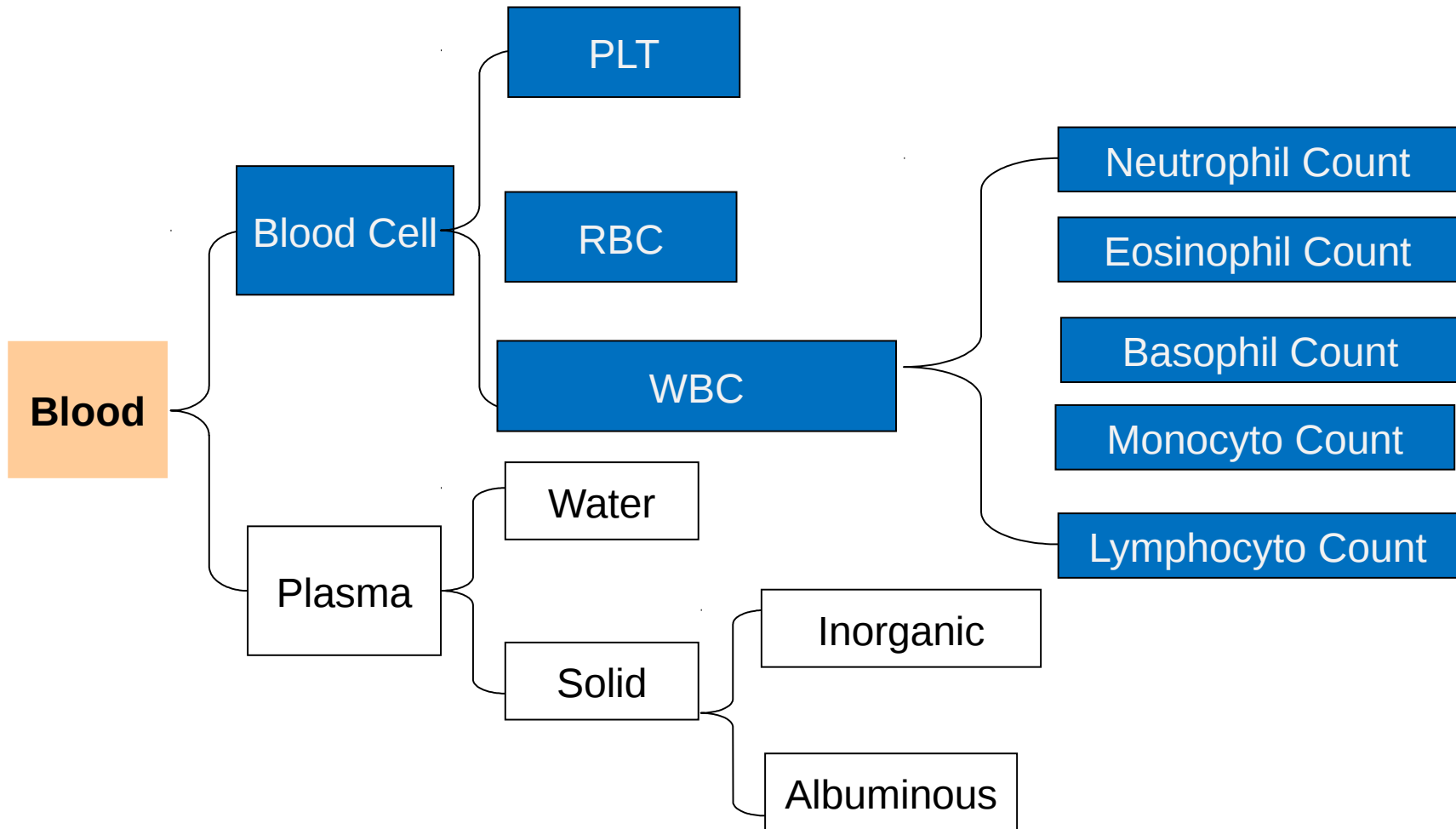
Rayto 5-diff Test Method

Rayto 5-diff General Overview

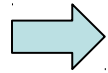
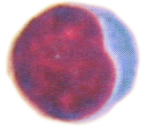
Outstanding Features

Competition

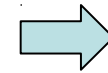
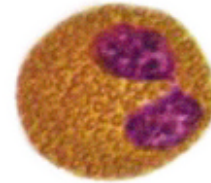
Blood Cell Structure



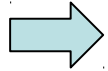
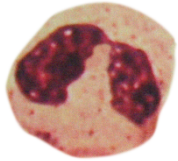
WBC



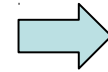
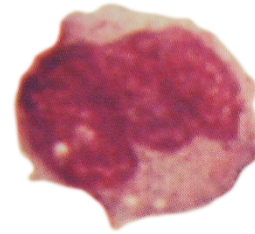
LYMPHOCYTE



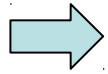
EOSINOPHIL



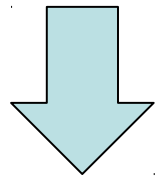
NEUTROPHILE



MONOCYTE



BASOPHIL





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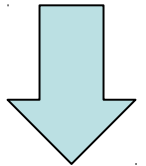
Outstanding Features

Competition

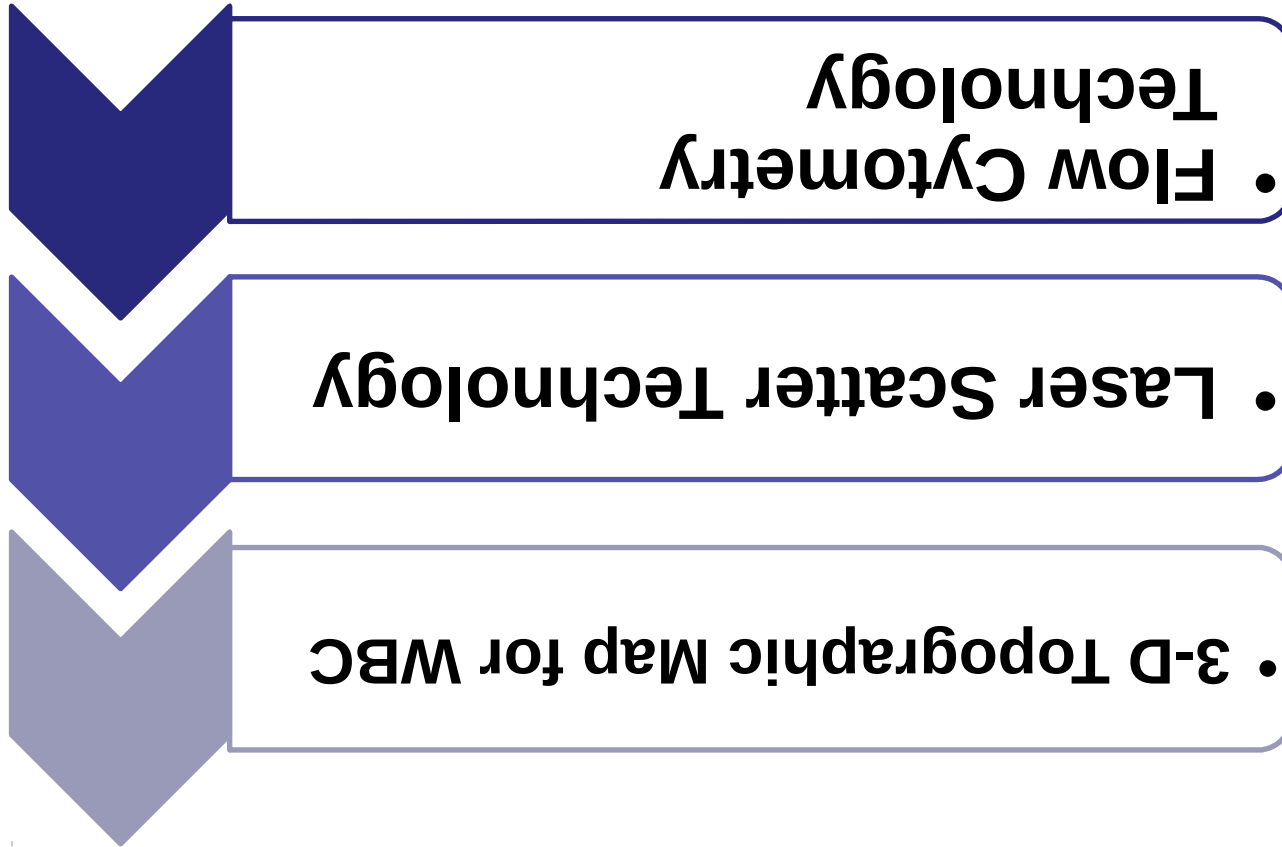
**Laser
Scattering
Method**

**Electrical
Impedance
Method**

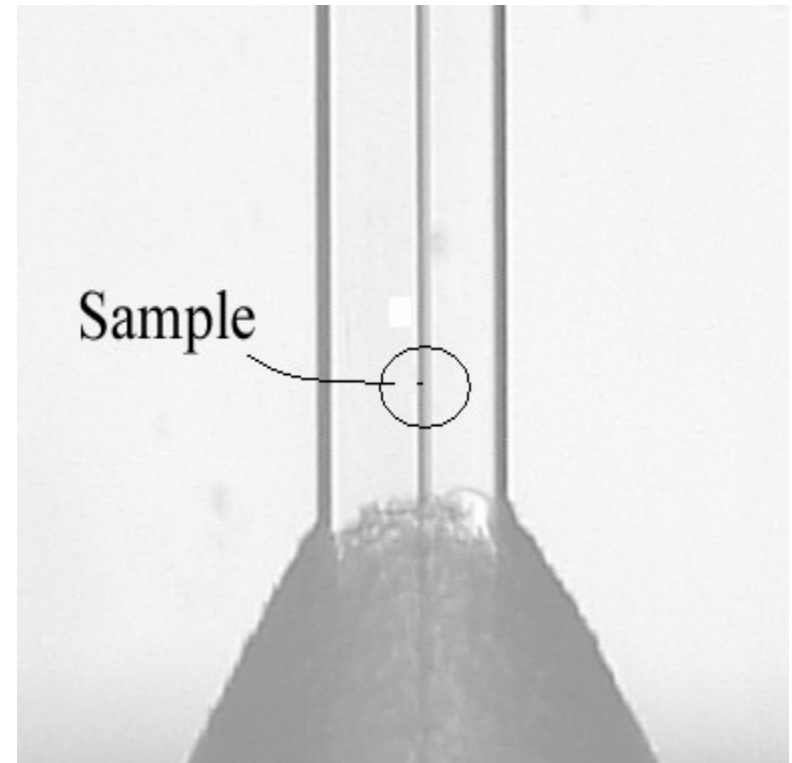
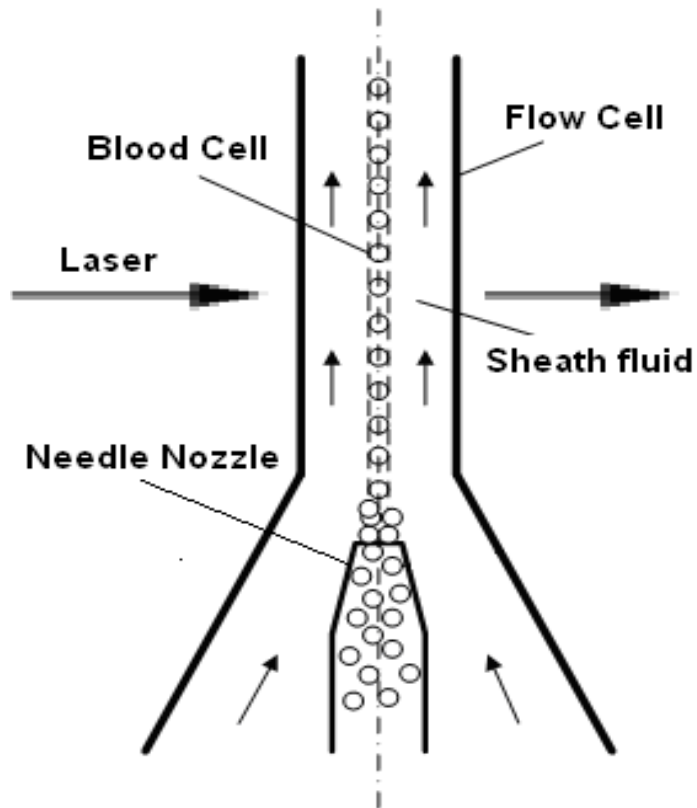
Colorimetric



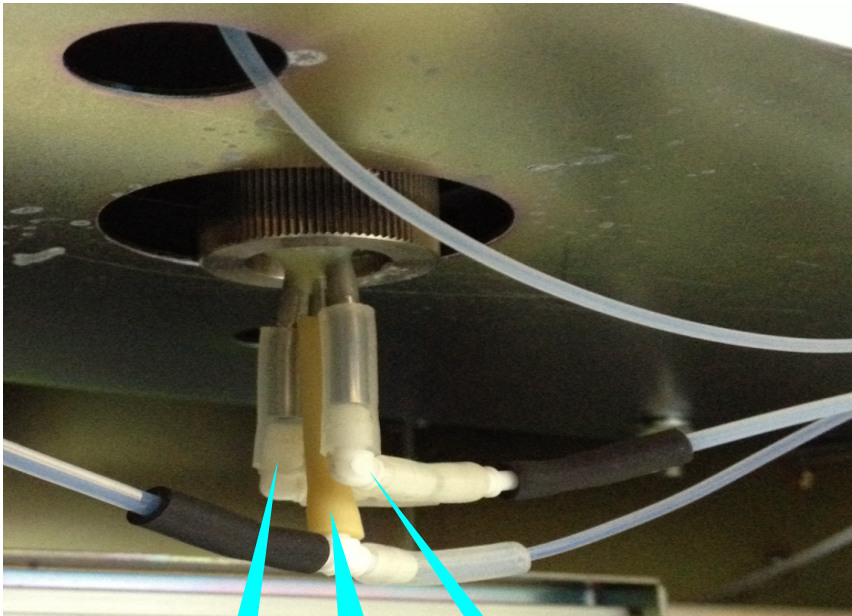
5-Diff: Laser Scattering Method



- **Flow Cytometry Technology**



Inner Structure



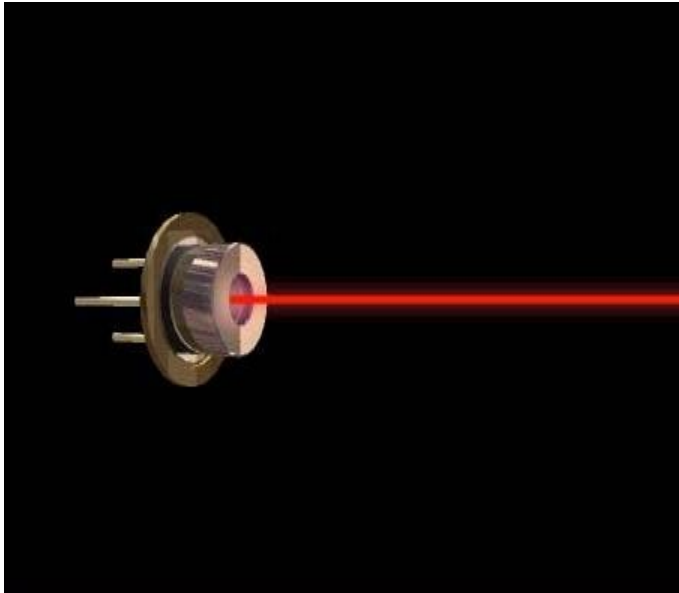
Flow cell

sample

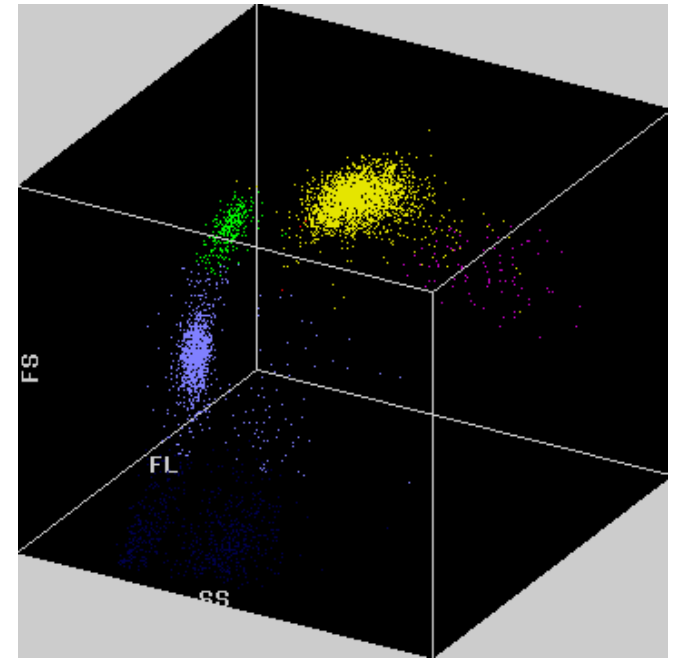
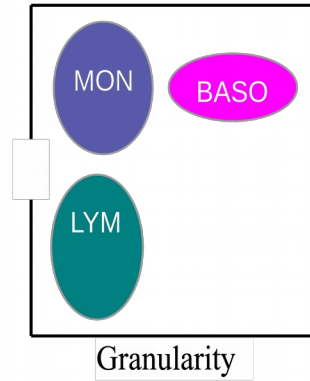
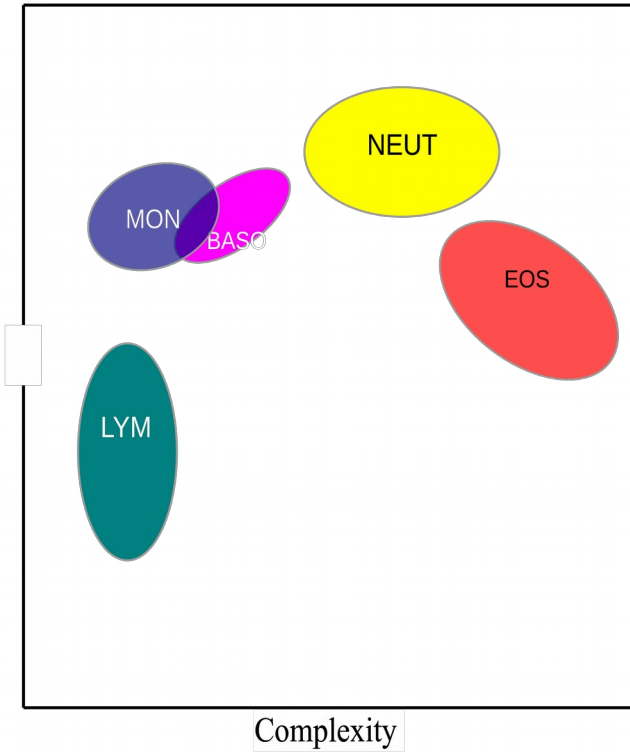
diluent

diluent

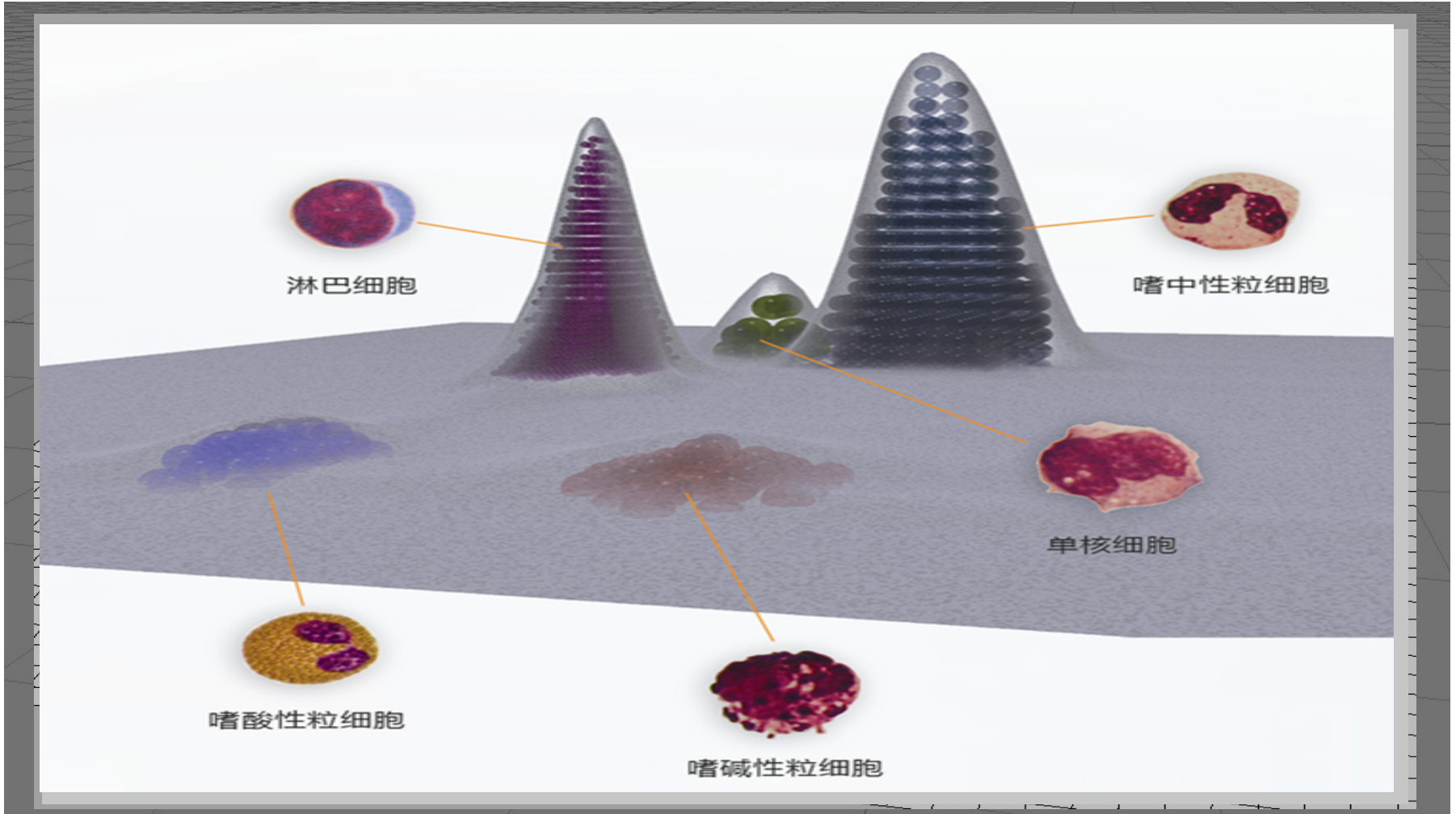
- **LASER LIGHT**



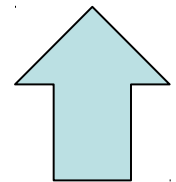
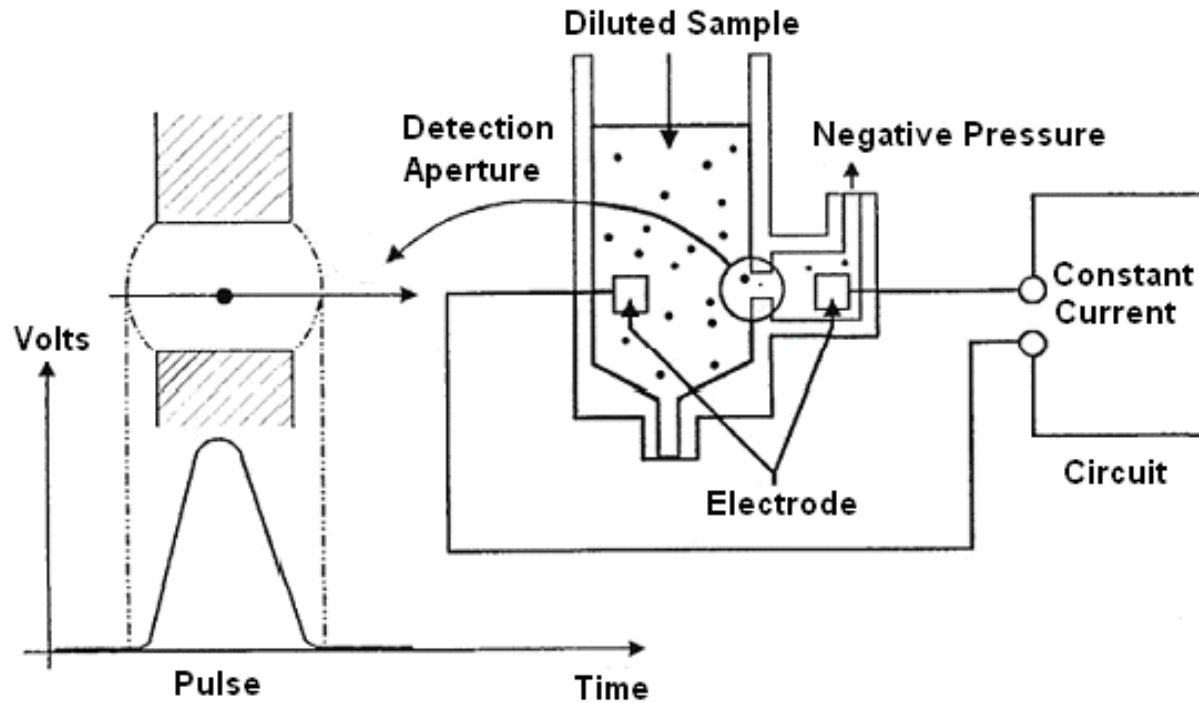
Scattergram



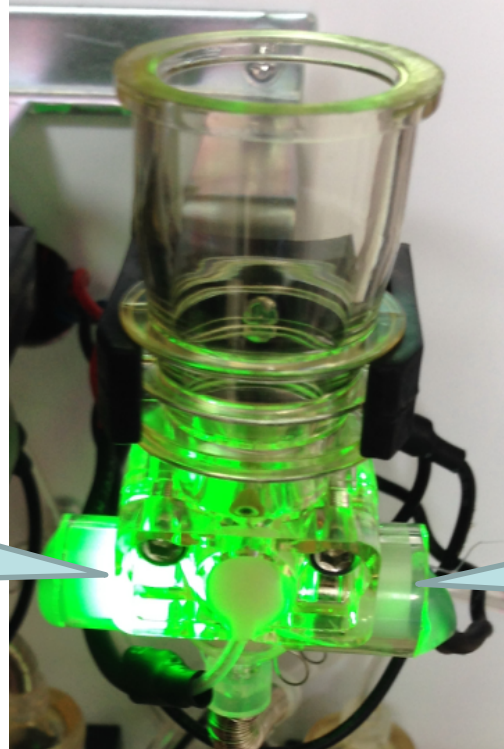
3-D Topographic Map for WBC



Electrical Impedance Method



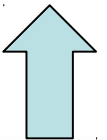
Colorimetric Method



LED lamp
(550nm
wavelength
light)

Optical detector

HGB=calibration coefficient \times Log10 (Blank value/sample value)





Blood Cell Introduction

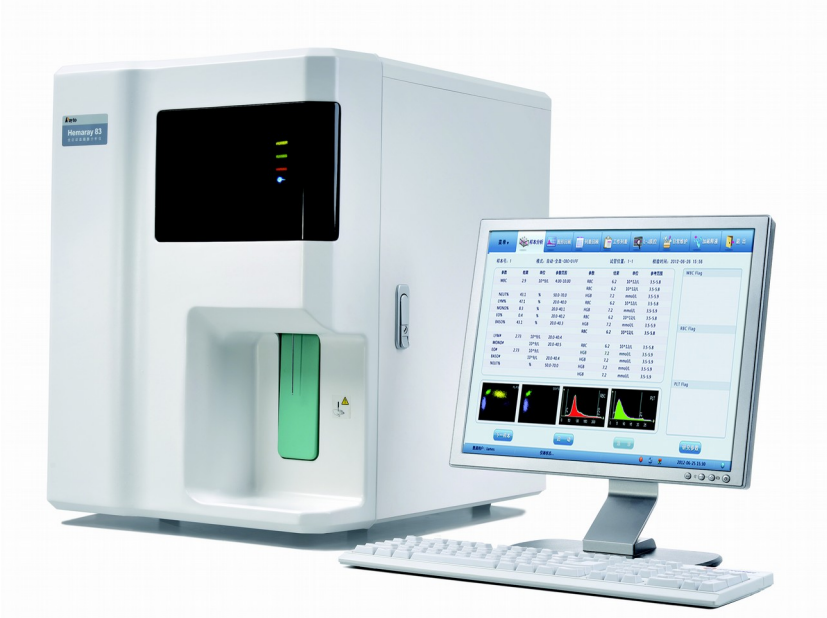
Rayto 5-diff Test Method

Rayto 5-diff General Overview

Outstanding Features

Competition

Rayto 5 Part Hematology Analyzer



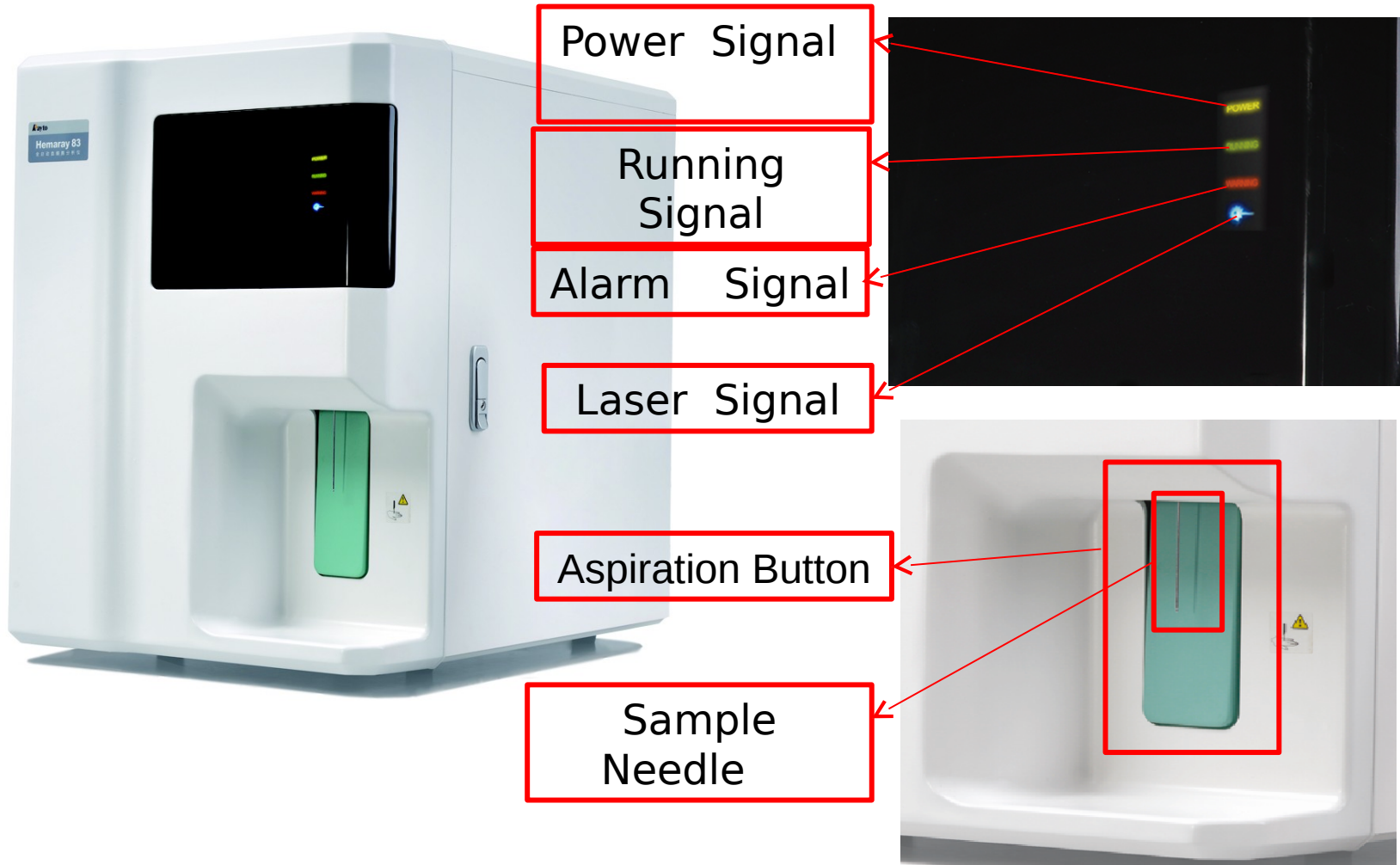
Hemaray83



Hemaray86

Concise Designing

Hemaray 83 Front View



Hemaray86 Front View



- Indicator board :
- 1. Power Signal
 - 2. Running Signal
 - 3. Alarm Signal
 - 4. Laser Signal

Bin Door Key

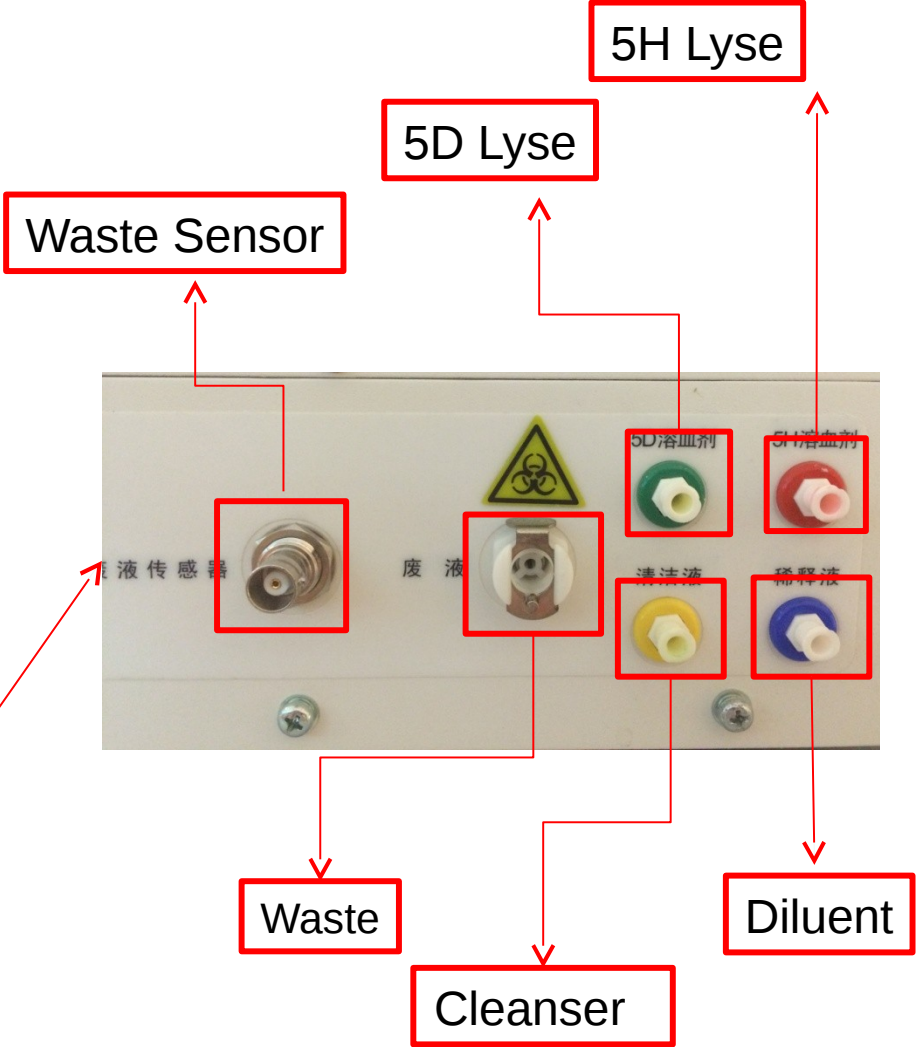
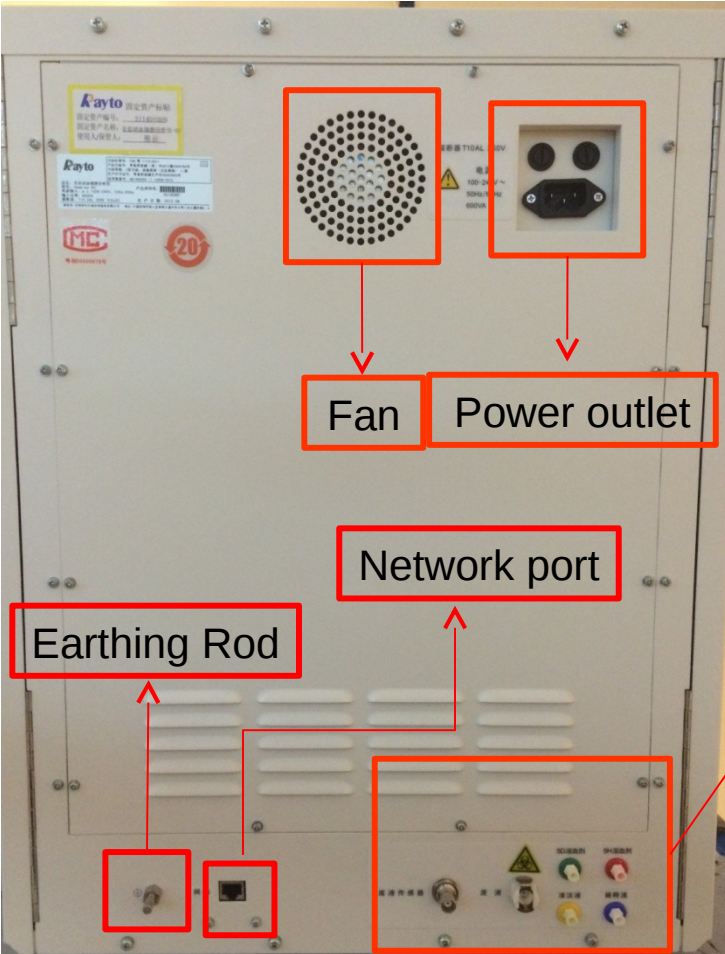
Aspiration Button

Sample Autoloader



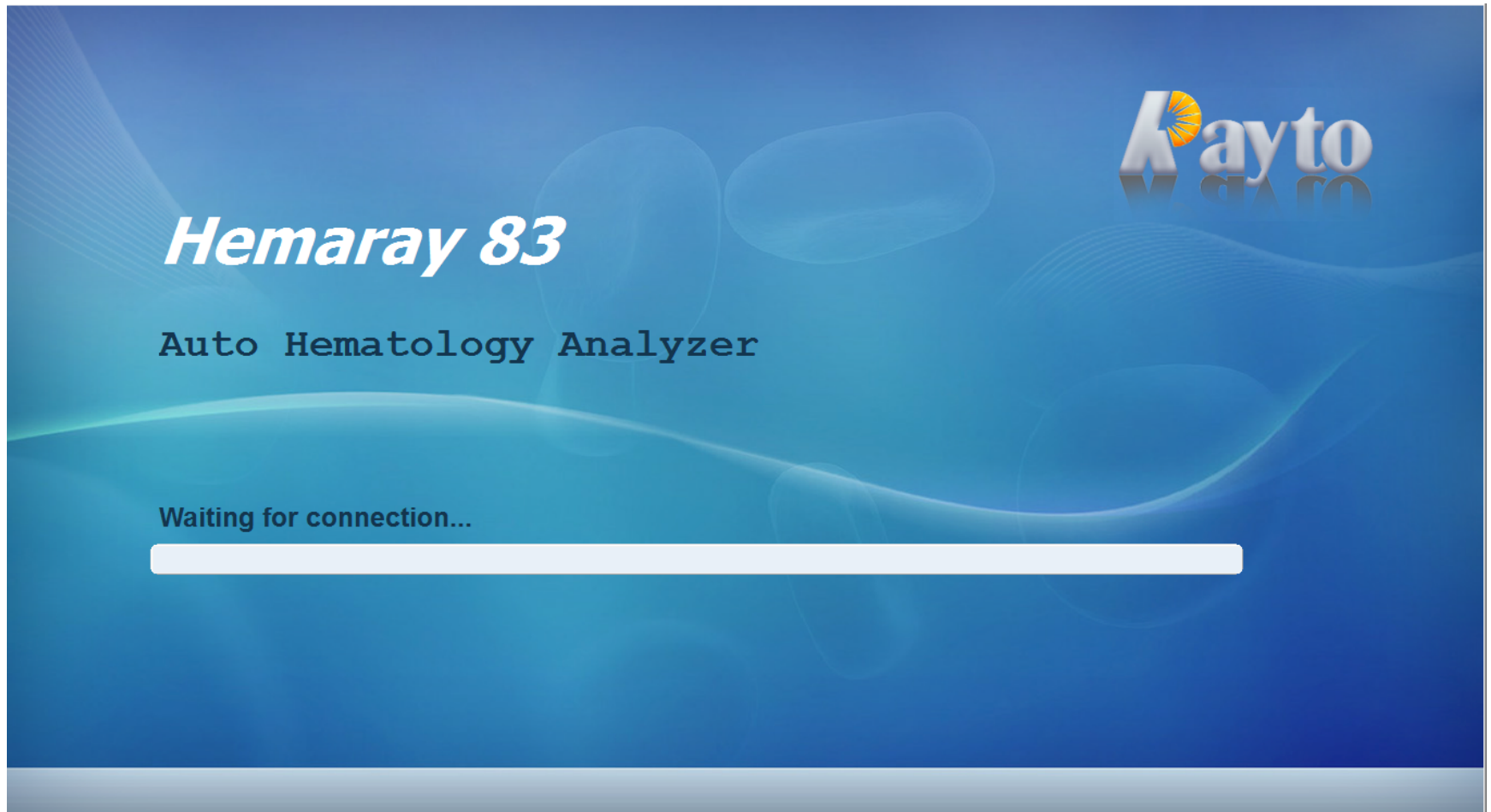
Mobile Bin Door

Back- plate overview



User Friendly Software

During the initialization , the liquid path cleaning and blank test will be conducted.



Blank Test Result

Menu ▾ Analysis Details List Review Work List L-J QC Maintain Diluent Exit

Seq#: 1 Sample No.: 1 Mode: WB-CBC+DIFF Test Time:

Item	Result	Unit	Normal Range	Item	Result	Unit	Normal Range
WBC		10 ⁹ /L	3.5-9.5	RBC		10 ¹² /L	3.8-5.8
NEU%		%	40-75	HGB		g/L	115-175
LYM%		%	20-50	MCHC		g/L	316-354
MON%		%	3-10	MCH		Pg	27-34
EOS%		%	0.4-8	MCV		fL	82-100
BAS%		%	0-1	RDW-CV		%	11-16
NEU#		10 ⁹ /L	1.8-6.3	RDW-SD		fL	35-56
LYM#		10 ⁹ /L	1.1-3.2	HCT		%	35-50
MON#		10 ⁹ /L	0.1-0.6	PLT		10 ⁹ /L	125-350
EOS#		10 ⁹ /L	0.02-0.52	MPV		fL	6.5-12
BAS#		10 ⁹ /L	0-0.06	PDW		fL	10-18
				PCT		%	0.108-0.282
				P-LCR		%	11-45

WBC Flag

RBC Flag

PLT Flag

FL-FS SS-FS RBC PLT

Next(N) Start(I)

Administrator: admin Not connected to the analyzer 2014-10-29 11:24:00

Parameter	Reference Range
WBC	$\leq 0.2 \times 10^9 / L$
RBC	$\leq 0.02 \times 10^{12} / L$
HGB	$\leq 1g / L$
HCT	$\leq 0.5\%$
PLT	$\leq 10 \times 10^9 / L$

Multi-warning System

The screenshot shows a software interface for a clinical diagnostic system. At the top, there is a menu bar with options: Menu, Analysis, Details, List Review, Work List, L-J QC, Maintain, Diluent, and Exit. Below the menu bar, the current test parameters are displayed: Seq#: 1, Sample No.: 1, Mode: WB-CBC+DIFF, and Test Time: .

Item	Result	Unit	Normal Range	Item	Result	Unit	Normal Range
WBC		10 ⁹ /L	3.5-9.5	RBC		10 ¹² /L	3.8-5.8
NEU%		%					
LYM%		%					
MON%		%					
EOS%		%					
BAS%		%					
NEU#		10 ⁹ /L					
LYM#		10 ⁹ /L					
MON#		10 ⁹ /L					
EOS#		10 ⁹ /L					
BAS#		10 ⁹ /L					

An "Error treatment" dialog box is open in the center, displaying the following error message and measures:

Error message
1. WBC clog

Measures
1. Click the "Remove error" button to unclog.
2. If the error still exists, execute "WBC/RBC Bath Soak" maintenance function.
3. If the error still exists, please contact our customer service department.

The dialog box has buttons for "Remove error", "Silent", and "Exit".

At the bottom of the interface, there is a status bar with a red warning icon and the text "customer serviceman: 5x3i Not connected to the analyzer".

Abnormal info warning showing automatically

Abnormal test warning

Other software function

- Great Data management capability
- Reagent inventory checking and warning
- Self-checking automatically when start up and shut down
- Adjustable Sleeping mode

Complete Parameters

28 Parameters ,2 Histograms , 2 Scattergrams

菜单 ▾ 样本分析 图形回顾 列表回顾 工作列表 L-J质控 日常维护 加稀释液 退出

序号: 42 样本号: 20121219RTS042 模式: 全血-CBC+DIFF 检验时间: 2012-12-19 17:04

项目	结果	单位	参考范围	项目	结果	单位	参考范围
WBC	7.58	10 ⁹ /L	4-10	RBC	4.19	10 ¹² /L	3.5-5.5
NEU%	69.2	%	50-70	HGB	134	g/L	110-160
LYM%	24.5	%	20-40	MCHC	358	g/L	320-360
MON%	5.6	%	3-12	MCH	31.9	Pg	27-34
EOS%	0.6	%	0.5-5	MCV	89.1	fL	80-100
BAS%	0.1	%	0-1	RDW-CV	11.4	%	11-16
NEU#	5.25	10 ⁹ /L	2-7	RDW-SD	43.1	fL	35-56
LYM#	1.86	10 ⁹ /L	0.8-4	HCT	37.3	%	37-54
MON#	0.43	10 ⁹ /L	0.12-1.2	PLT	250	10 ⁹ /L	100-300
EOS#	0.04	10 ⁹ /L	0.02-0.5	MPV	7.9	fL	6.5-12
BAS#	0	10 ⁹ /L	0-0.1	PDW	16.5	fL	10-16
				PCT	0.198	%	0.108-0.282
				P-LCR	7.2	%	11-45

WBC Flag

RBC Flag

PLT Flag

FL-FS SS-FS

RBC PLT

计数 原始信息

研发用户: 5X1010 下一样本: 20121219RTS043 全血-CBC+DIFF 2012-12-19 17:06:47

WBC Serial

RBC Serial

PLT Serial

Scattergram

Histogram



Blood Cell Introduction

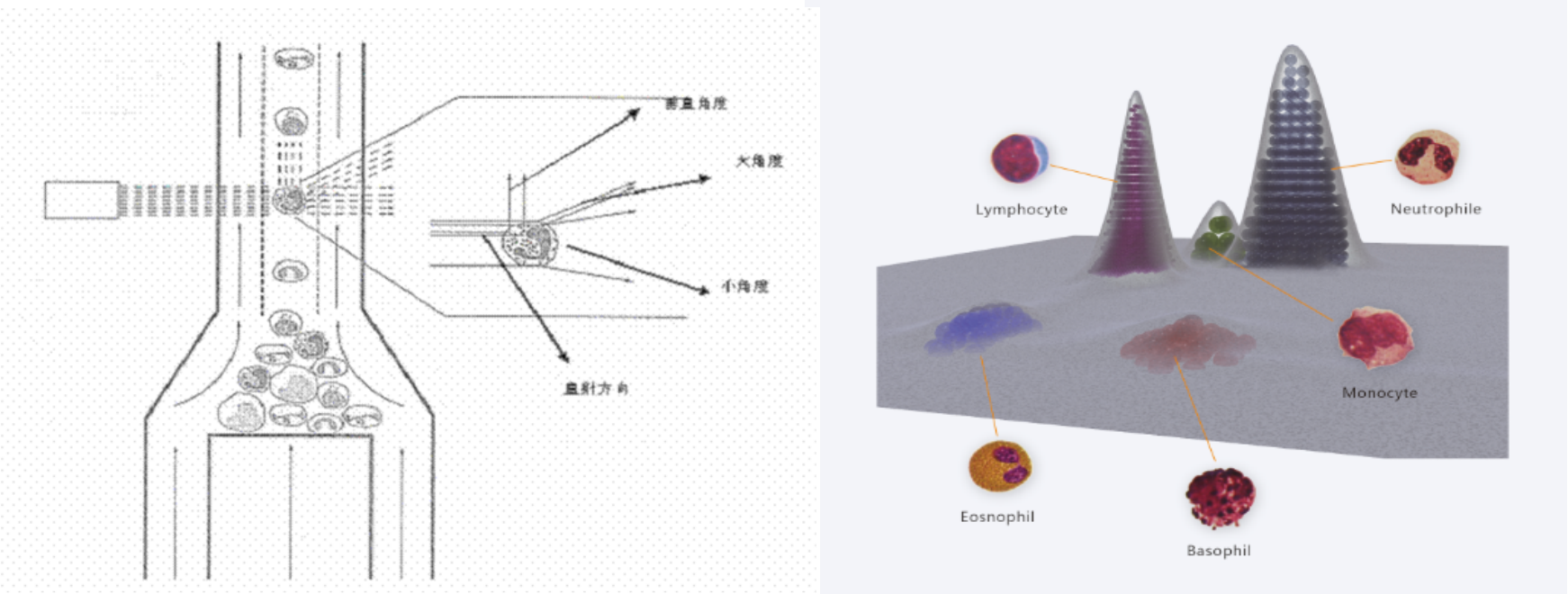
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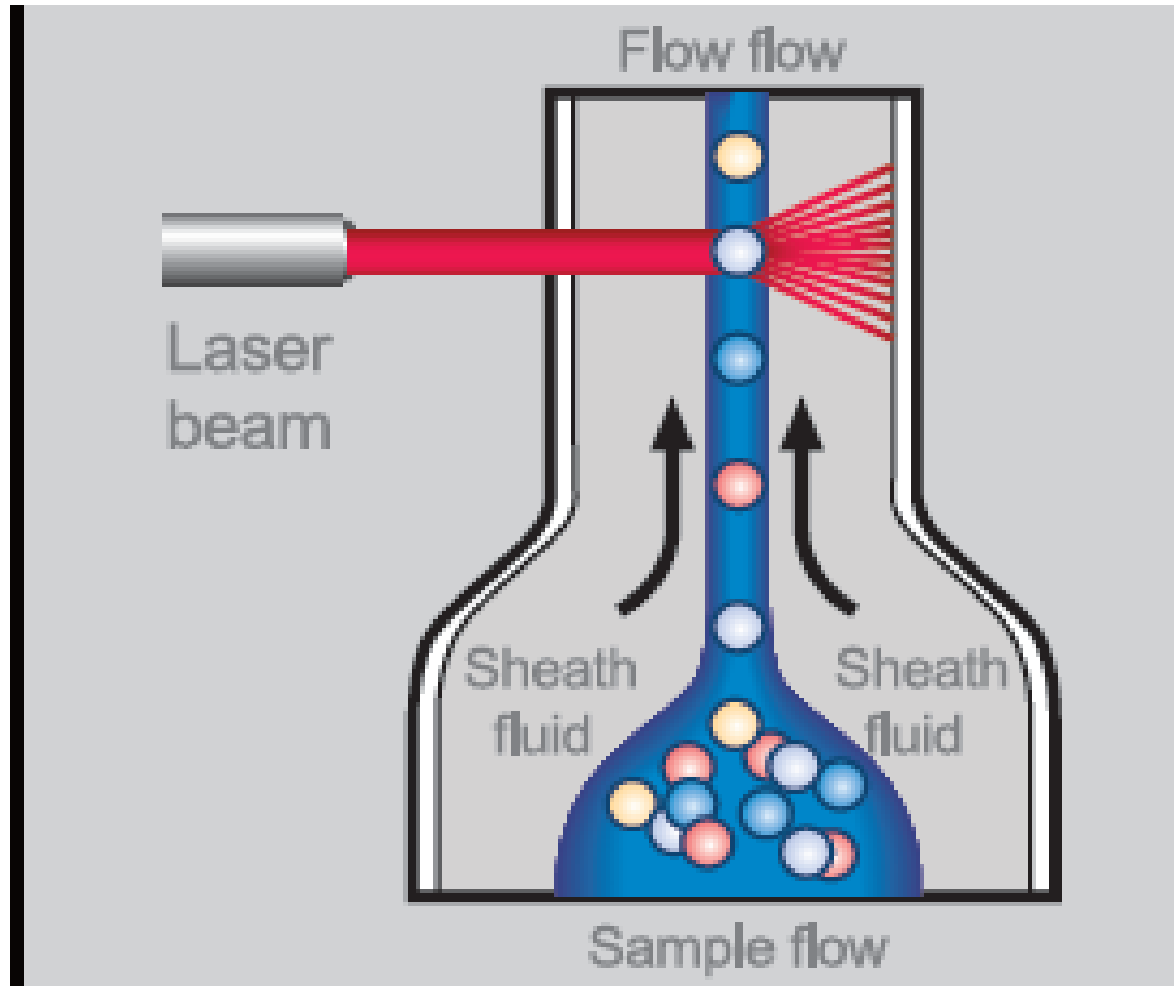
Competition

1. Laser Scattering and 3-D Topographic map



A useful way of 5-differential of WBC, according to the size, complexity, granularity of cells
 3D-Topographic laser technology to differentiate WBC through one channel

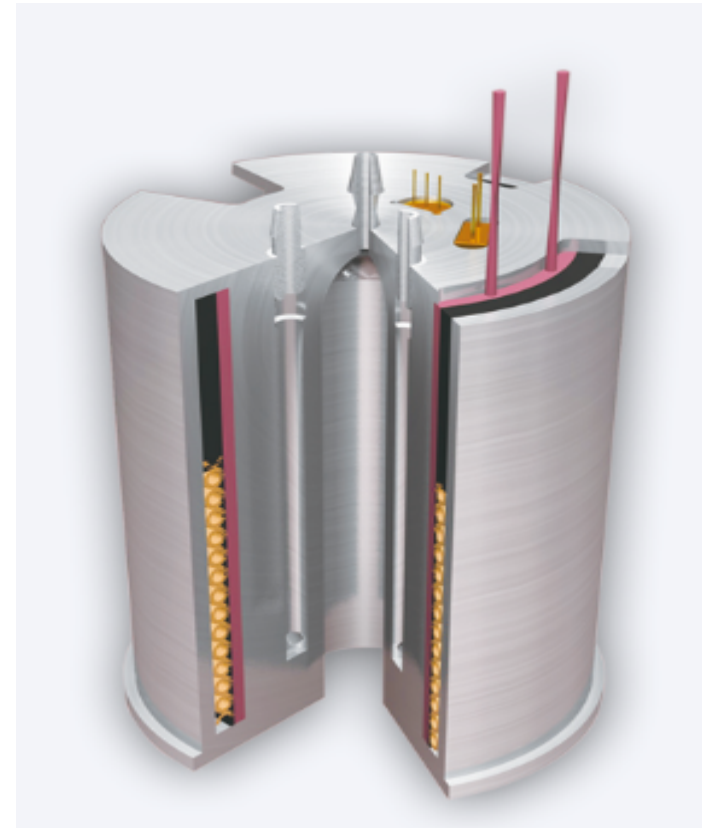
2. Constant Linear Sheath Flow



To ensure the accuracy of WBC accounting

3. Integral Titanium Incubation System

- Keep the reagent and sample in the same constant temperature
- key technology to ensure the accuracy of 5 –diff differential



4. High efficiency

10ul whole blood sample volume for CBC

20 ul whole blood sample volume for CBC+5 Diff

50 samples on-board capacity (Hemaray86)

60 tests/hr throughput



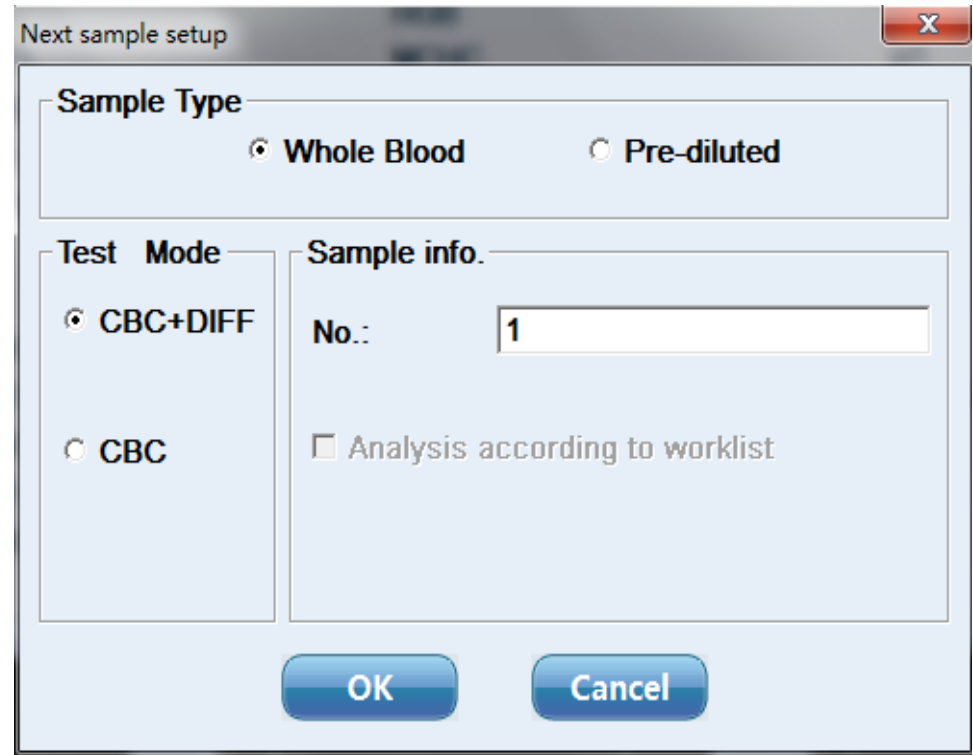
5. Flexible Test Mode

Test mode

1. CBC+ 5 Diff
2. CBC

Sample mode

3. Whole blood sample
4. Pre-diluted blood sample



Next sample setup

Sample Type

Whole Blood Pre-diluted

Test Mode

CBC+DIFF CBC

Sample info.

No.:

Analysis according to worklist

OK Cancel

6. Internal Barcode Reader (optional on Hemar ay86)

- More efficiency
- Unique inside catcher design can catch the sample tube and roaster by 360°



7. LIS System (Optional on Hemaray86/83)

Hemaray86 can be access to LIS / HIS system, to make your lab more s
marter

Test orders and patient information can be downloaded from server and t
he results can be automatically transmitted when tests finish.

Supporting HL7 protocol

8. Only 4 kinds Reagents for testing

1. Diluent
2. Cleanser
3. 5H Lyse (CBC mode)
4. 5D Lyse (CBC+5-Diff)



9. Economical Reagent using

- Diluent (20L) : 500 test
- 5D Lyse (500ml): 1100 test
- 5H Lyse (500ml) : 2200 test



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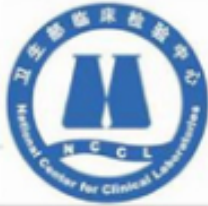
Outstanding Features

Competition

Excellent Chinese 5-part hematology analyzer evaluationd from M OH exports

Item	Company	Model	specification	company competence	clinical application evaluation	total score
≤80 tests/hour	Urit	URIT-5261	54.5	20	18.6	93.1
≤80 tests/hour	Urit	URIT-5260	53.5	20	18.4	91.9
≤80 tests/hour	Urit	URIT-5250	53.5	20	18.6	92.1
≤80 tests/hour	Dymind	D5-CRP	56	16	17.6	89.6
≤80 tests/hour	Dymind	DF50	56	16	17.2	89.2
≤80 tests/hour	Dymind	DH56	56	16	18.4	90.4
≤80 tests/hour	Rayto	Hemaray 86	59	20	19.2	98.2
≤80 tests/hour	Rayto	Hemaray 83	54	20	18.8	92.8
≤80 tests/hour	Mindray	BC-5390CRP/BC-5180CRP	56	20	18.6	94.6
≤80 tests/hour	Mindray	BC-5390	56	20	18.6	94.6
≤80 tests/hour	Mindray	BC-5310	56	20	18.6	94.6
≤80 tests/hour	Mindray	BC-5380/BC-5180	56	20	18.6	94.6
≤80 tests/hour	Mindray	BC-5000	53	20	18.6	91.6
≤80 tests/hour	Mindray	BC-5300/BC-5100	56	20	18	94
≤80 tests/hour	Mindray	BC-5150	55	20	18.4	93.4
≤80 tests/hour	Landwind	LW D6500	55	18.2	17.6	90.8

MOH evaluation



卫生部临床检验中心 2015年全国全血细胞计数室间质量评价 成绩汇总

实验室名称: 深圳雷杜生命科学股份有限公司
 测定日期: 2015-11-03 第2次 统计日期: 2015-11-18

定量项目	2014 年第 2 次 成绩汇总			2015 年第 1 次 成绩汇总			2015 年第 2 次 成绩汇总			当前性能解释	累积性能解释
	及格数	总数	得分 (%)	及格数	总数	得分 (%)	及格数	总数	得分 (%)		
WBC	5	5	100	5	5	100	5	5	100	满意	成功
RBC	5	5	100	5	5	100	5	5	100	满意	成功
Hgb	5	5	100	5	5	100	5	5	100	满意	成功
Hct	5	5	100	5	5	100	5	5	100	满意	成功
Plt	5	5	100	5	5	100	5	5	100	满意	成功
MCV	5	5	100	5	5	100	5	5	100	满意	成功
MCH	5	5	100	5	5	100	5	5	100	满意	成功
MCHC	5	5	100	5	5	100	5	5	100	满意	成功
所有项目汇总											
汇总	40	40	100	40	40	100	40	40	100	满意	成功



SC [blurred] S.R.L.
[blurred] C.U.J. R.G.

IN ATTN: To whom it may concern

RECOMMENDATION LETTER

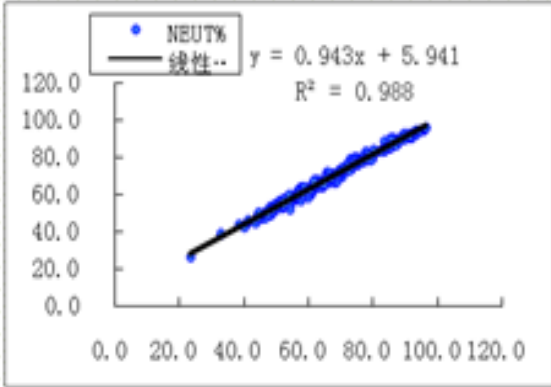
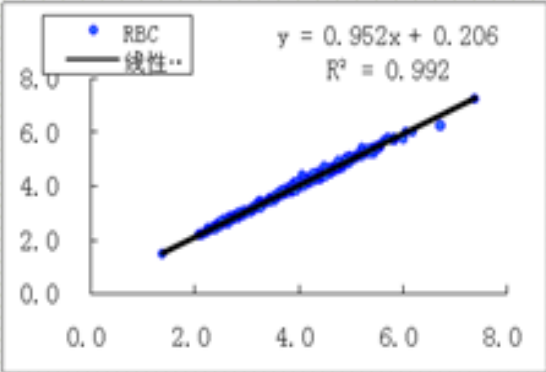
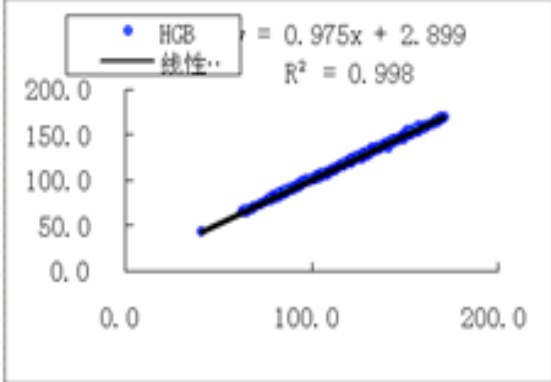
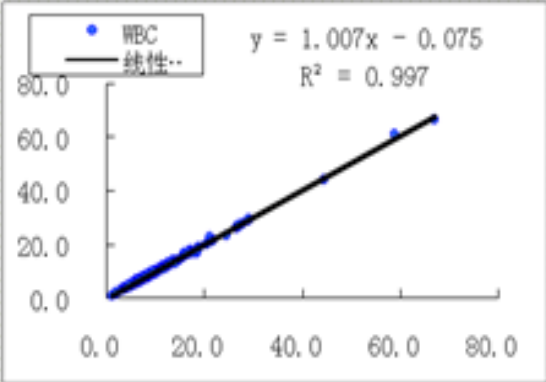
We, SC [blurred] S.R.L., an important IVD distribution company from Romania, Europe, recommends analyzer **Hemaray 83** of company **Rayto Life and Analytical Science Co. Ltd.** The device has proven itself as a reliable, easy to maintain and easy to use analyzer. The clients of our company, bought this unit, did not have any complaints on the work of the analyzer, that also characterizes the device with a good hand. We have been working with the analyzer for already one year and within this period there was no failure in its operation.

[blurred]

Best regards,
General Director
[blurred]



Correlation with Sysmex XS-1000i



Thank You !