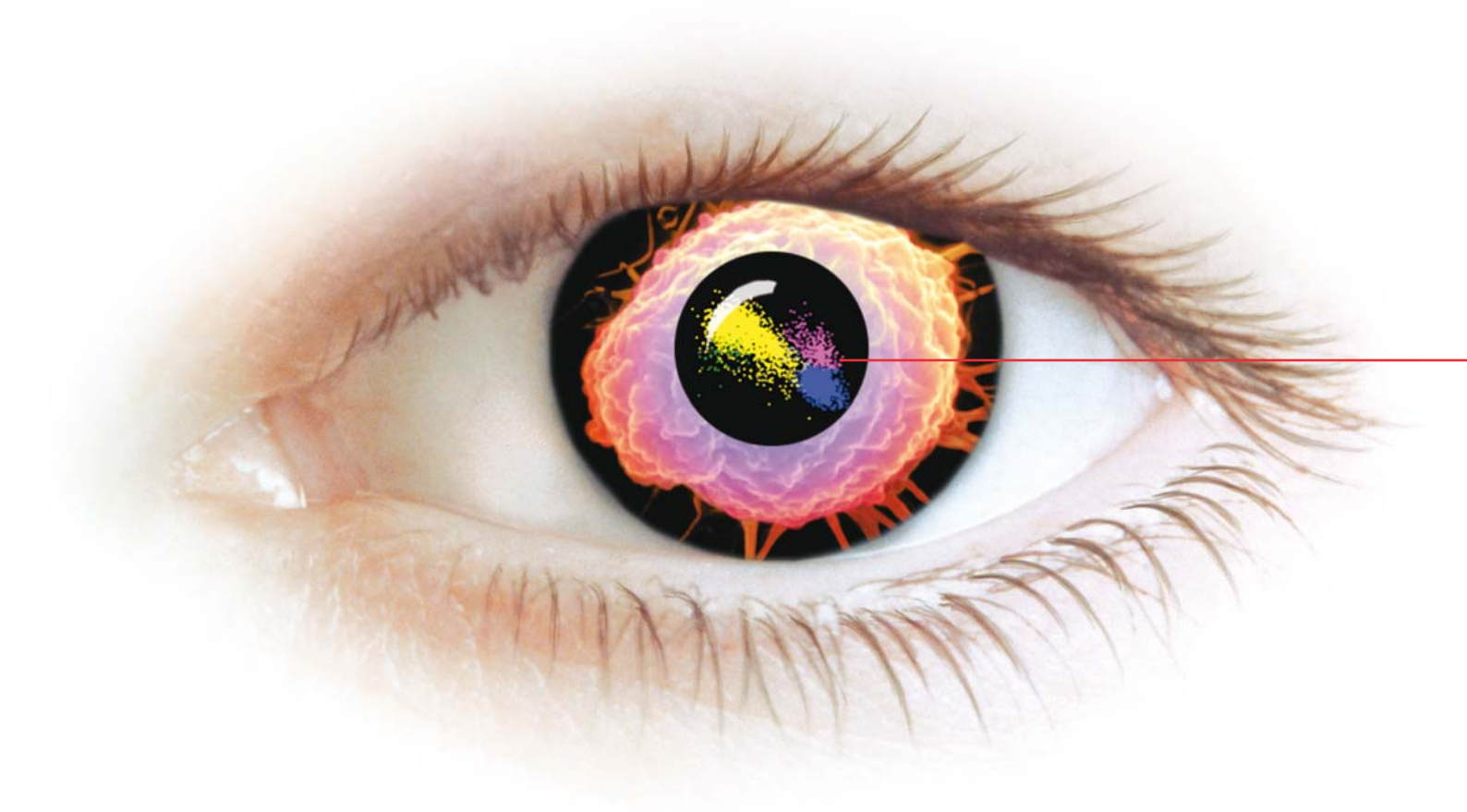
CELL-DYN Ruby*™

See Brilliant Results

without all the reviews.



* In Development
Product not available in the U.S.

Abbott
A Promise for Life

First Pass Efficiency.™
Getting it right the first time.

GOALS:

More reportable WBC and WBC differential results on the first run, even when abnormal cells and interfering substances are present:

- MAPSS™ (Multi-Angle Polarized Scatter Separation) technology provides laser-accurate optical readings for WBCs with differential.
- Accurate identification using 4-angle scatter measurements.
- Use of multiple scatterplot analysis for identification of abnormal cells and interfering substances.

First pass optical platelets. Right the first time.

- The CELL-DYN Ruby™ 2-angle optical platelet count accurately enumerates and sizes to help ensure first pass reportable results.
- Reduces reflex testing due to interference from microcytic RBCs, RBC fragments, WBC fragments and non-platelet particles.

Three dimensional optical RBC count.

- Improved RBC count accuracy.
- Clinically useful RBC parameters.

Flexible, easy-to-use software.

- Features customizable views.
- Easily performs non-routine tasks.

Only three reagents for complete CBC with 5-part WBC differential analysis.

- WBC lyse
- HGB lyse
- Diluent/sheath

CELL-DYN Ruby*™

A shining example of advanced technology.

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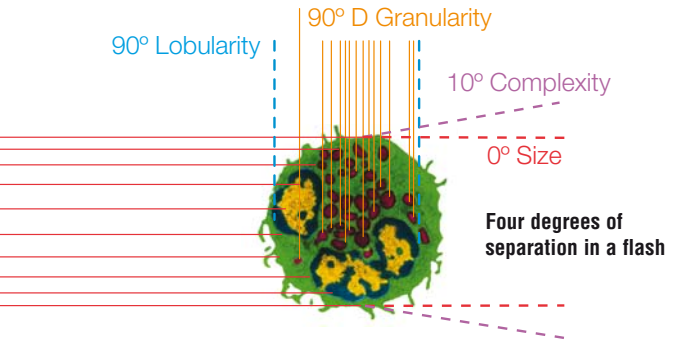
Abbott Hematology.
The First with First Pass Efficiency.™

Highly discriminate, sequential separation using MAPSS™ technology.

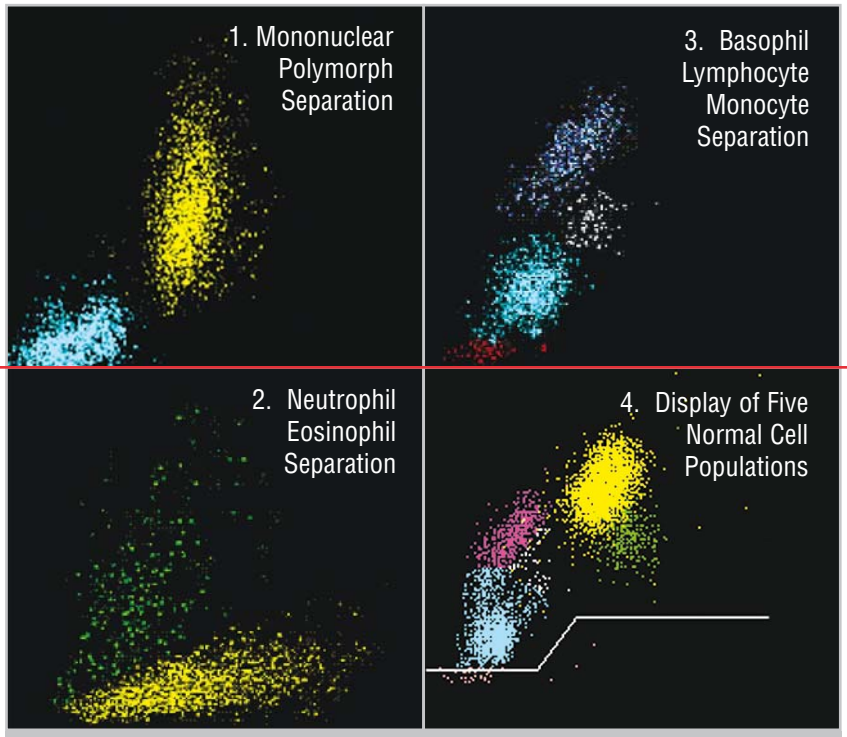


MAPSS Laser Technology.
A higher level of interrogation.

- Analysis performed on up to 10,000 cells from a single dilution, using a single reagent.
- Captures up to 40,000 data points.

MAPSS results are displayed in elegant, multiple, color-coded scatterplots.

- Discriminates between neutrophils, eosinophils, basophils, monocytes and lymphocytes.
- Identifies and classifies immature cells and interfering substances.



How MAPSS™ differentiates and classifies.

	Size	Complexity	Lobularity	Granularity	Classification			
Cell	0°	10°	90°	90° Depolarized	1st	2nd	3rd	4th
1	165	162	116	32	POLY	NEUT	—	—
2	60	64	15	6	MONO	—	—	LYMPH
3	140	79	21	99	MONO	—	—	MONO
4	148	182	104	118	POLY	EOS	—	—
5	90	110	28	8	MONO	—	BASO	—

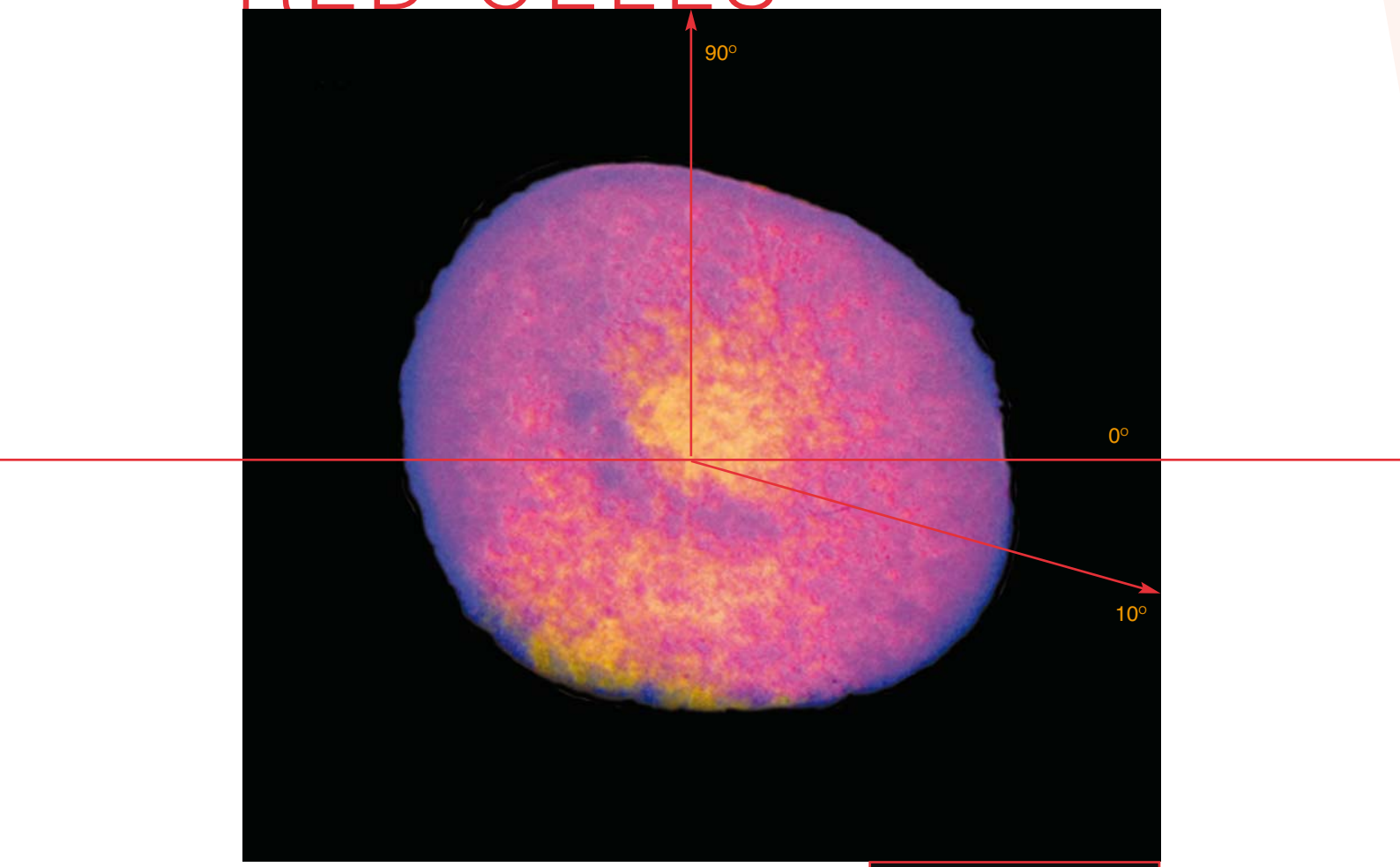
MAPSS™

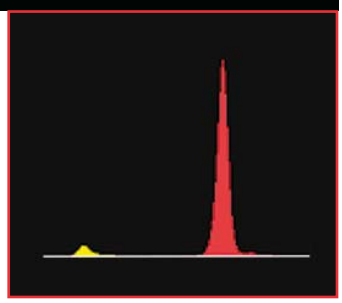
Three-dimensional, Optical Red Blood Cell Analysis.

Improves the accuracy of red cell measurements, including retics, with 3-D analysis.

- Comprehensive cell-by-cell measurements with readings taken at 0º, 10º, and 90º for exquisite accuracy.
- Retics analyzed via 0º, 10º, and 90º scatter.
- Retic assay based upon NCCLS/ICSH methods.

RED CELLS





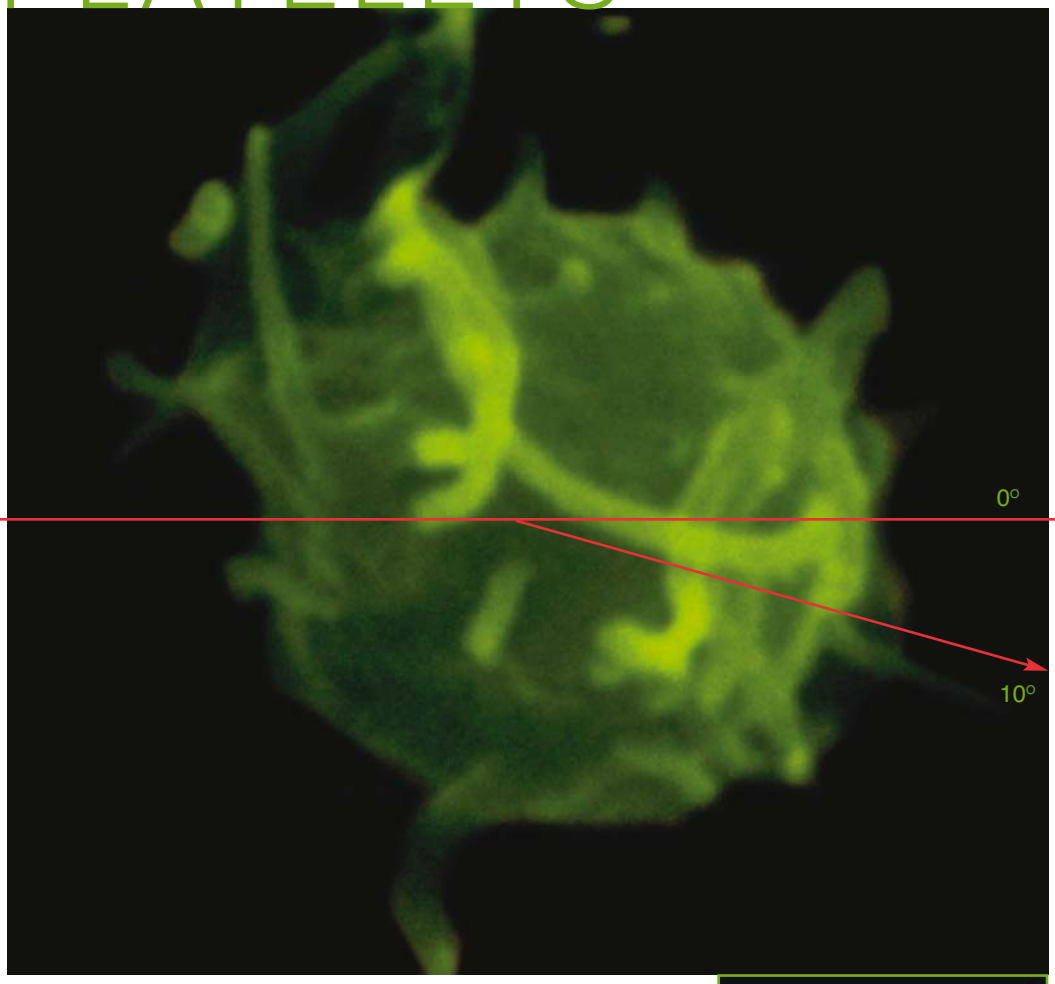
Red cell size and size distributions are displayed using a histogram of the 0º scatter.

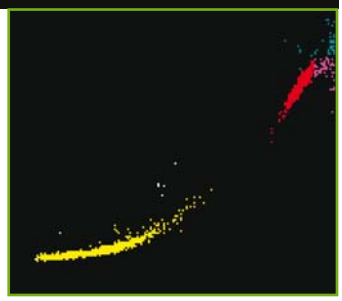
Two-dimensional, Optical Platelet Analysis.

More reportable platelet counts across a wide variety of abnormal conditions.

- Two-angle analysis separates the platelet and RBC populations.
- Reduced interference from microcytic RBCs, schistocytes, RBC fragments, or non-platelet particles.
- More reportable results are obtained:
  - —without reflexing or extra reagents,
  - —in presence of giant or clumped platelets using 2-D separation,
  - —on thrombocytopenic samples, and
  - —without dilution, on samples with thrombocytosis.

PLATELETS





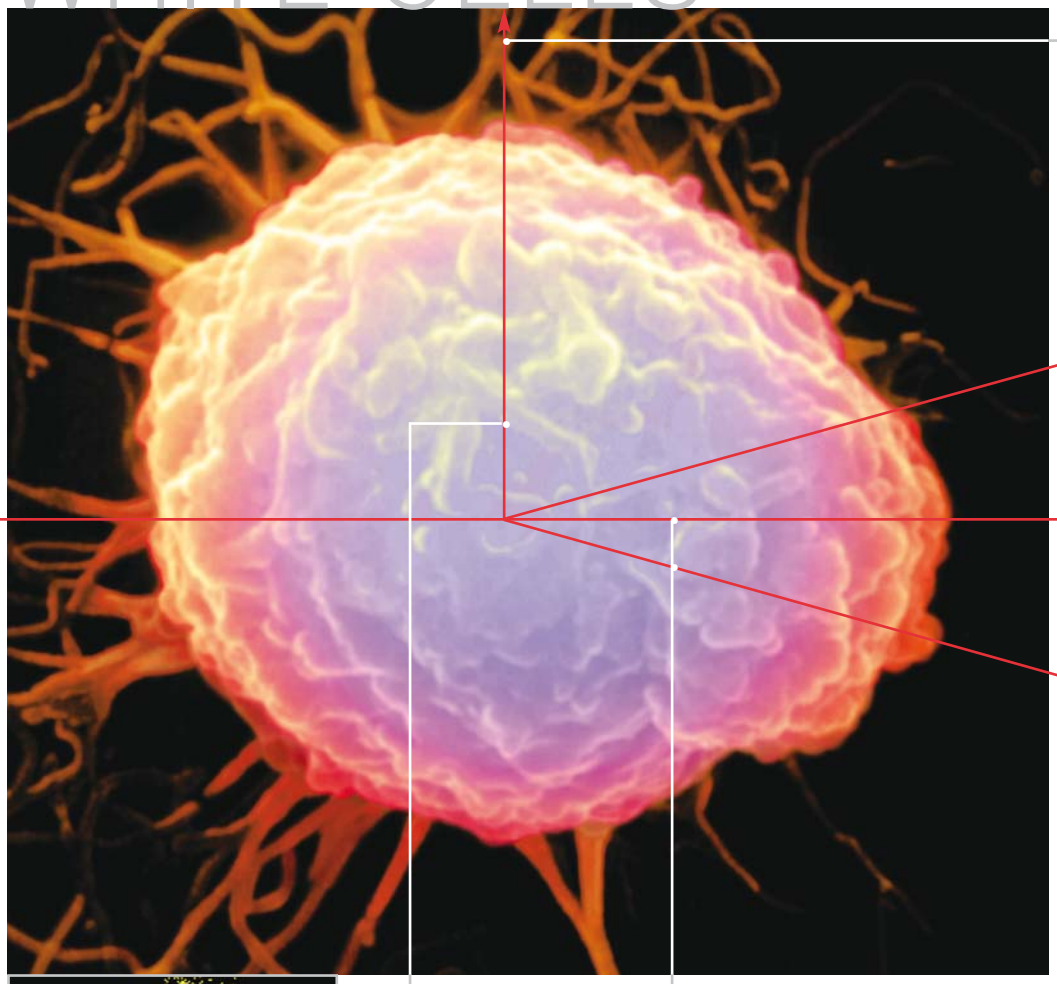
First Pass Optical Platelet Count: Platelets and RBCs are accurately sized and counted by multidimensional laser light scatter. Whole blood is diluted into a proprietary reagent system that optimizes the separation of Platelets and RBCs reducing interference by microcytic red cells and non-platelet particles.

Four-dimensional, WBC Analysis.

White cells are counted and studied so that results can be reported on the first run, even when abnormal cells and interfering substances are present.

- Reduced manual reviews due to interference from NRBCs, clumped platelets and debris.
- MAPSS technology can detect potential interference from lysis-resistant red cells. These samples can be re-run in the lysis-resistant mode without microscopic review (See Figures 1 & 2).

WHITE CELLS



1

Neutrophils and eosinophils are separated from lymphocytes, monocytes and basophils by differences in their complexity and lobularity.

2

Neutrophils are separated from eosinophils by virtue of their different characteristics in scattering polarized (90°) and depolarized (90° D) light.

3

Basophils are separated using both size (0 degrees) and complexity (10 degrees) readings, allowing lymphocytes and monocytes to be separated by size (0 degrees) information.

4

The net result is the excellent discrimination of 5 normal cell populations.

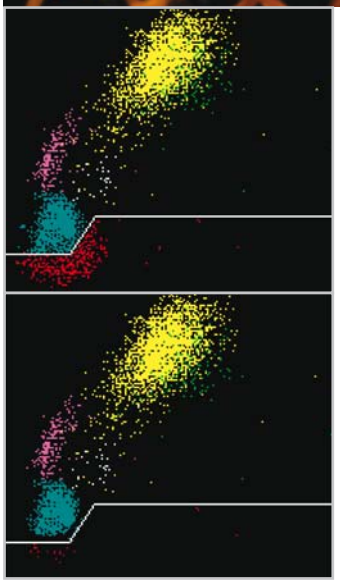


Figure 1: The occurrence of a significant population of cells occurring below the dynamic WOC threshold can suggest the presence of lysis-resistant RBCs.

Figure 2: In cases where lysis-resistant RBCs occur, (typically in neonates and patients with hemoglobinopathies, thalassaemia or liver disease) the sample is re-run in the resistant RBC mode.

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Multi-faceted software offers touch-screen convenience and maximum flexibility.

Easy for everyone.

- Screens are straightforward, intuitive, and easy to navigate.
- The software offers customizable views (Based on SQL Data Base).
- Handy tool tips help optimize operator's experience.
- Automatic monitoring of reagent status.

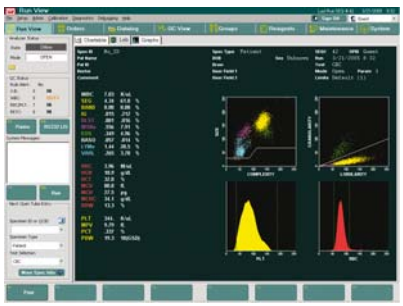
Even non-routine tasks are easy to perform and user-friendly:

- Calibration functions
- Help menus
- Help videos

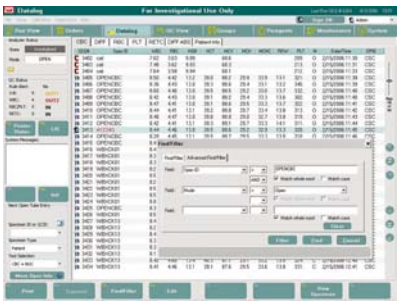
Configured for Security.
User sign-in is password-protected with multiple security levels.

QC Files.
Users can store up to 500 quality control files.

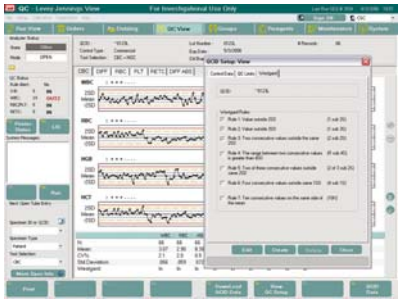
Run View-Chartable Information
WBC, RBC, and Plt information for Patient and Quality Control results are clearly displayed using color-coding. Flagged specimens are easily identified. Operators may select up to 9 different scatter gram views at the click of a button.



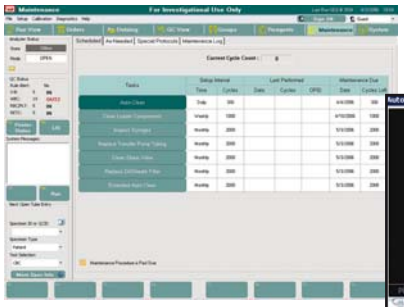
Run View-Lab Information Only
In Lab View you can see additional parameters for internal lab use. For the differential they include BAND, IG, BLST (Blast), VARL (Variant Lymph) absolute and percentage values. Additional hematology parameters are the PCT and PDW.



Data Log
Patient and Quality Control information is stored for up to 10,000 results. Information is quickly and easily retrieved with user-friendly search menus.



QCID
In QC VIEW you can toggle from Levey-Jennings® Plots to Data Summaries through the lower left function key labeled QCID DATA and QCID L-J Plots.



Maintenance
All maintenance information is easily monitored on a single screen. An on-line Operator's Manual and Help Videos are always available to assist in performing maintenance functions.

Simply. Brilliant. Technology.

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PRODUCT GOALS

THROUGHPUT	CBC + Differential up to 76 per hour
SAMPLE VOLUME	Open Mode 150 µL, Sample Loader 250 µL
REAGENTS	Only 4 reagents including reticulocytes
TECHNOLOGY	
WBC AND DIFFERENTIAL	4 angle optical MAPSS™ Multiple Scatterplot Analysis
PLATELETS	Dual angle optical analysis, no extra reagent, no reflex testing requirement
RETICULOCYTES	New Methylene Blue NCCLS/ICSH methods, supravital staining technique

Data Management

- Microsoft Windows® based Operating System
- Touch Screen Monitor
- Full on-board QC
  - Summary statistics and Levey-Jennings® plots
  - Moving averages (including WBC differential)
  - Westgard rules
- 10,000 results stored with graphics
- Work list capability
- Programmable patient and report limits
- Complete patient demographics
- Bar code reading: Code 39, Codabar, Code 128, Interleaved 2 of 5, ISBT
- Auto-calibration on-line guide
- On-board diagnostics and Help Videos

Operating Environment Temperature

- 15°C (59°F) to 30°C (86°F)

Humidity

- ≤80% relative humidity, non-condensing Indoor Use

Standards & Safety Compliance

UL
CSA
IEC 1010
CE Mark

Ordering Information

08H67-01 CELL-DYN Ruby™ Analyzer
09H04-01 Accessory Kit
05H00-01 17" Touch Screen Monitor
08H14-01 Membrane Keyboard

Reportable Parameter Goals

WHITE CELLS			RED CELLS		PLATELETS	RETICULOCYTES
NOC	WOC	NEU	RBC	HGB	PLT	RETIC#
%N	LYM	%L	HCT	MCV	MPV	RETIC%
MONO	%M	EOS	MCH	MCHC		
%E	BASO	%B	RDW	Retic		
			%R			

Electrical Requirements

MODULE	VOLTAGE	FREQUENCY	MAXIMUM CURRENT	MAXIMUM POWER CONSUMPTION
Analyzer	100-240 VAC	50/60 ± 3Hz	0.5-2.2 amps	550 watts
Display	100-240 VAC	50/60 ± 3Hz	0.7 amps	50 watts

System Measurements

MODULE	HEIGHT	WIDTH	DEPTH	WEIGHT
Analyzer	49.9 cm (19.25 in.)	86.4 cm (34.0 in.)	76.8 cm (30.25 in.)	105.2 kg (232.0 lbs.)
Printer	Refer to the printer manufacturer's specifications			

www.abbottdiagnostics.com
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Abbott Hematology

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