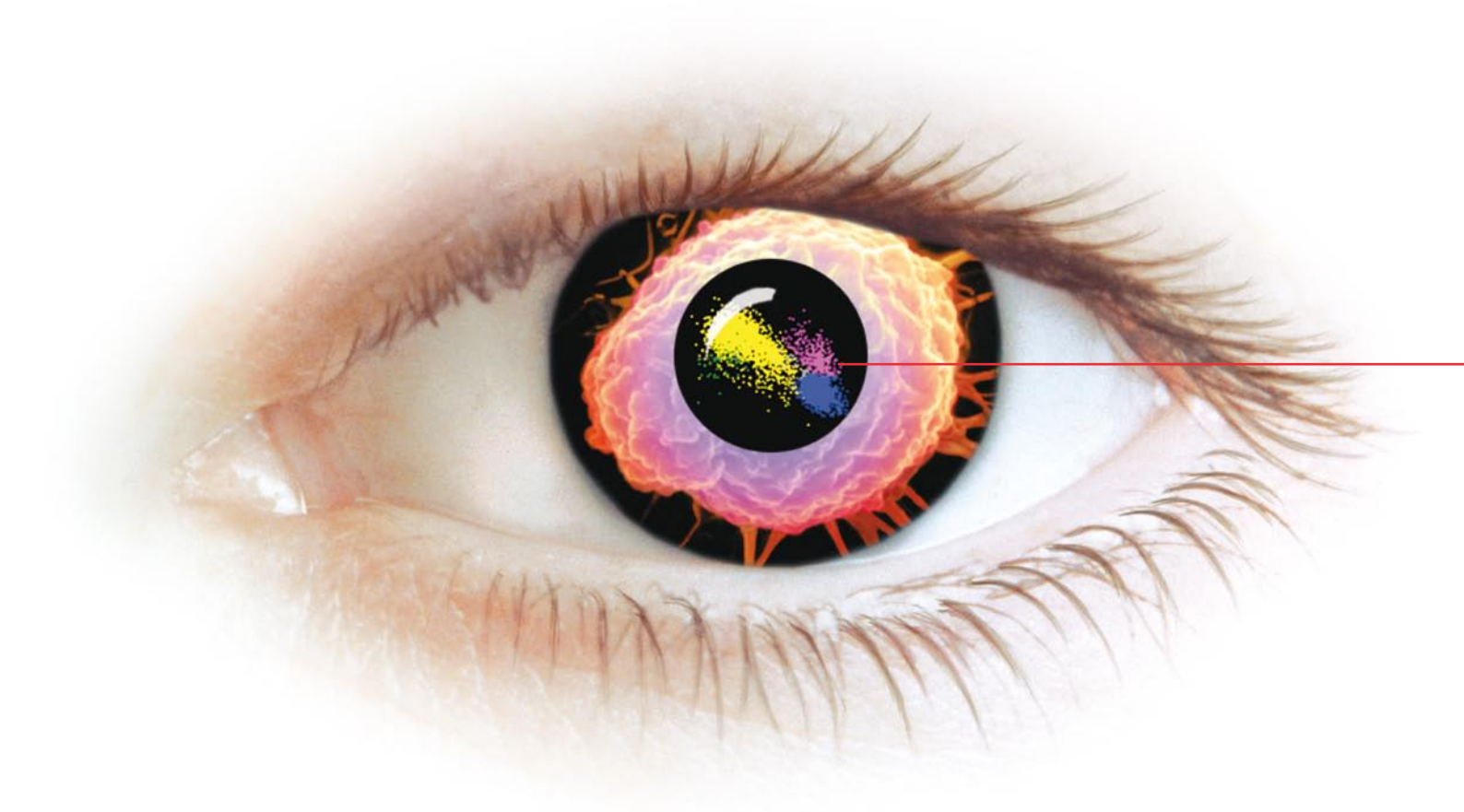
# See Brilliant Results

## without all the reviews



CELL-DYN Ruby

Including software 2.0 enhancements!

Abbott
A Promise for Life

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

**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.

**Lysis-resistant RBC mode.**

- RBC analysis includes 3-dimensional counts, indices and retics.
- Optical RBC technology means fewer manual reviews.

**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.**

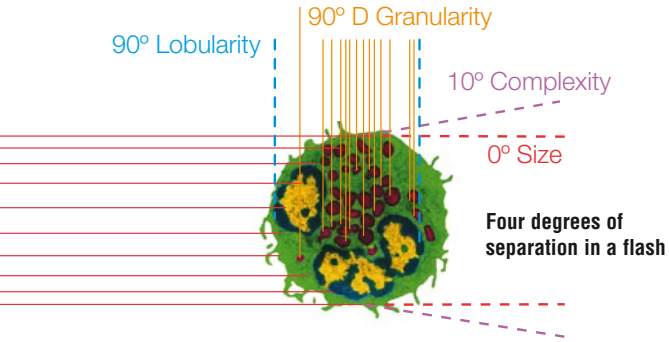
- WBC lyse
- HGB lyse
- Diluent/sheath


CELL-DYN Ruby

A shining example of advanced technology.

# Abbott Hematology.
# The First with First Pass Efficiency.

**Highly discriminate, sequential separation using MAPSS technology.**

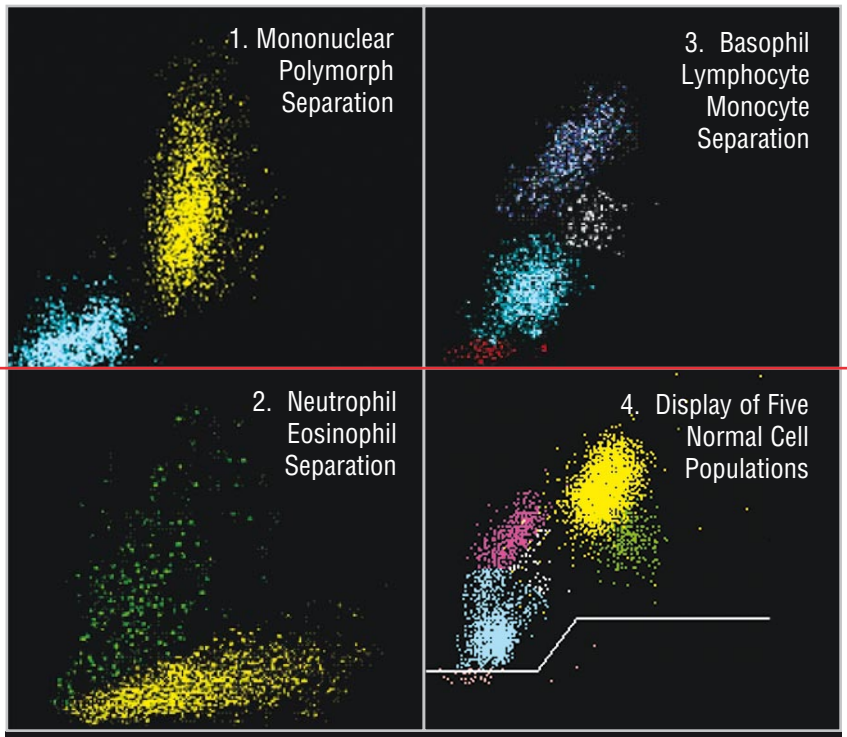



MAPSS Laser Technology.
A higher level of interrogation.

- 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 | — |

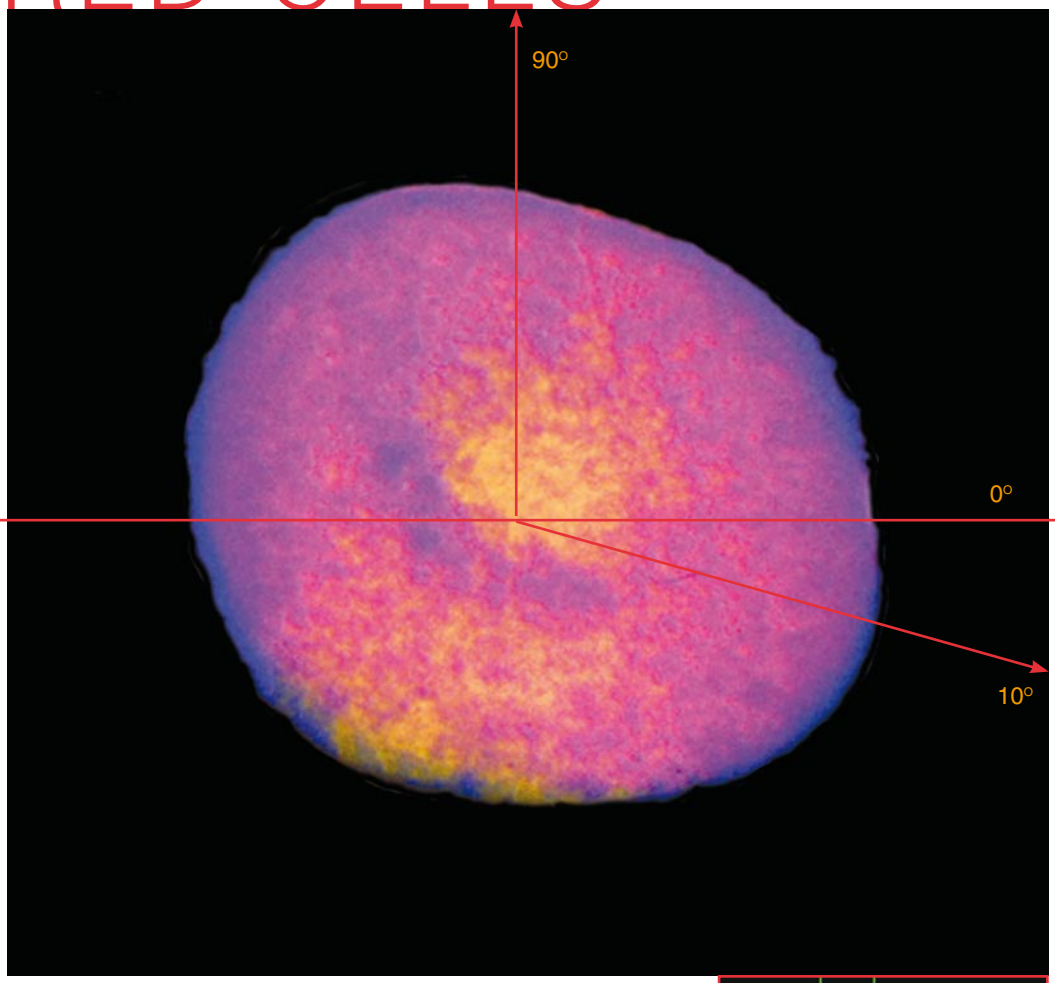
MAPSS

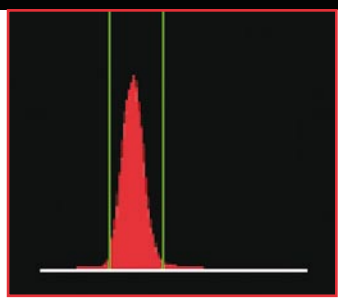
## Three-dimensional, Optical Red Blood Cell Analysis.

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



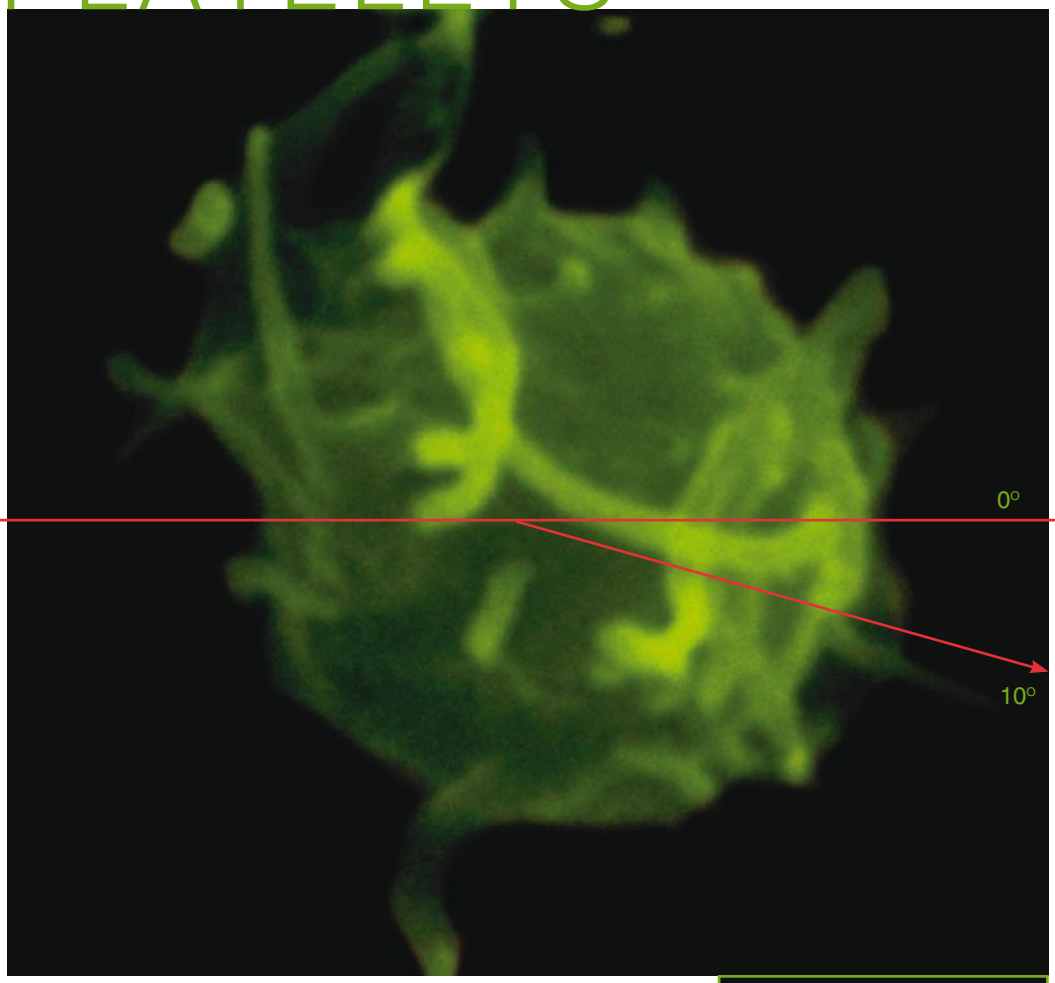
Red cell size and size distributions are displayed using a histogram constructed from the cell-by-cell volume calculated using the 0°, 10° and 90° measurement of each cell.

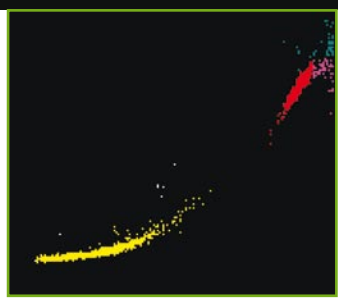
## Two-dimensional, Optical Platelet Analysis.

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



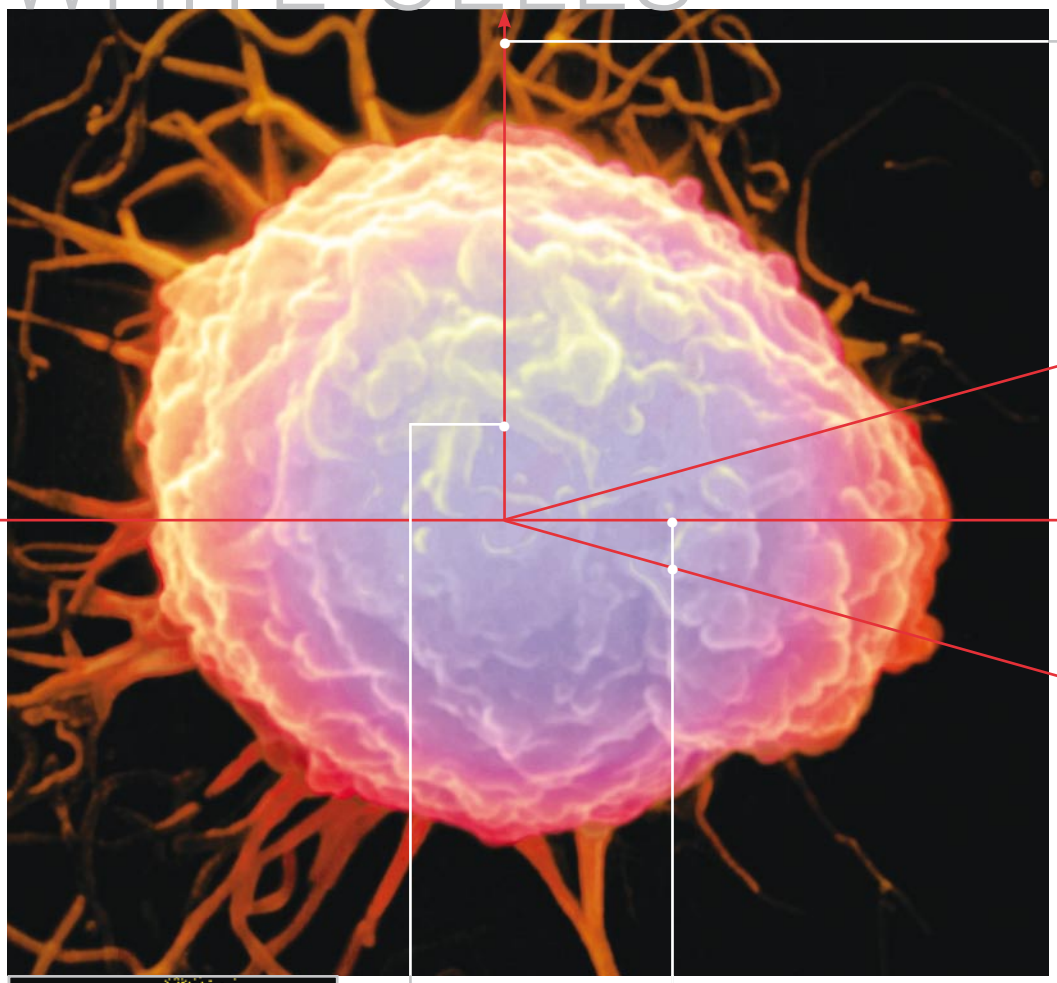
First Pass Optical Platelet Count: Platelets and RBCs are accurately sized and counted by multidimensional laser light scatter. Whole blood is diluted into a proprietary reagent system that optimizes the separation of Platelets and RBCs reducing interference by microcytic red cells and non-platelet particles.

## 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.

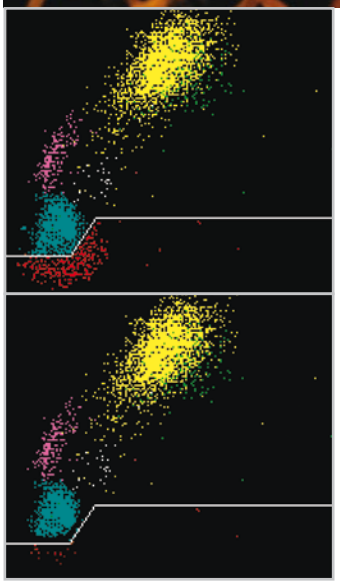


**Figure 1:** The occurrence of a significant population of cells occurring below the dynamic WOC threshold can suggest the presence of lysis-resistant RBCs.

**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.

# 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.**

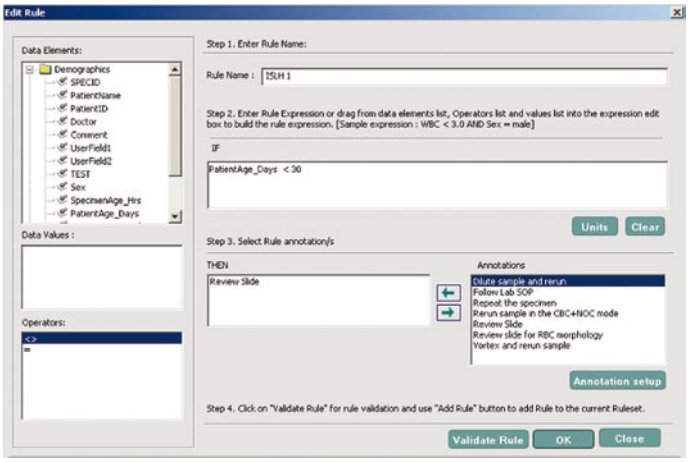
User sign-in is password-protected with multiple security levels.

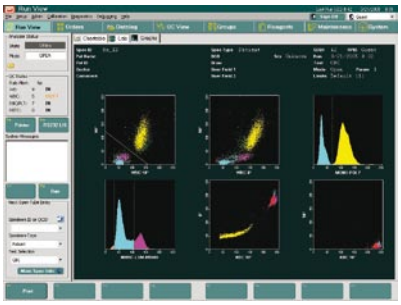
**QC Files.**

Users can store up to 500 quality control files.

**Data Management**

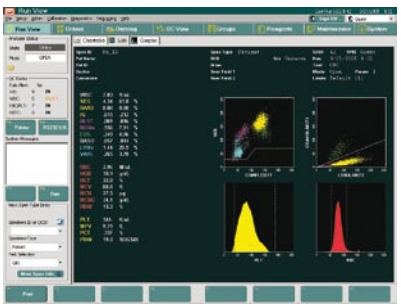
- Rules based result annotations allow you to standardize lab processes to meet your laboratory's needs. You may program up to 100 rules and up to 48 result annotations to help streamline your data management processes.



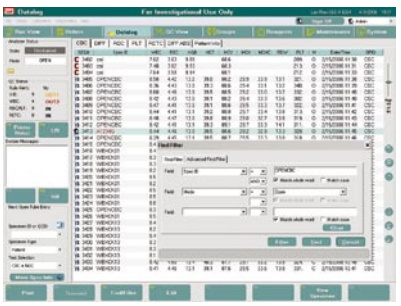
**Run View-Chartable Information**

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.

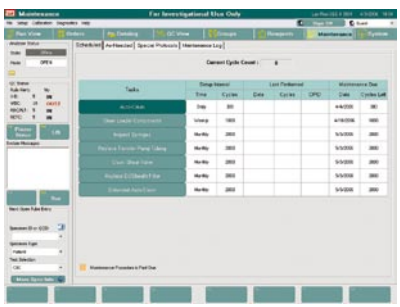


**Data Log**

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.

CELL-DYN Ruby

## PRODUCT GOALS

| | |
|---|---|
| **THROUGHPUT** | CBC + Differential up to 84 per hour |
| **SAMPLE VOLUME** | Open Mode 150 µL, Sample Loader 230 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 methods, supravital staining technique |

### Data Management

- Microsoft Windows based Operating System
- Rules based result annotations
  - Decision rules
  - Up to 100 rules
  - up to 48 result annotations
  - Fully customizable
- 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
05H00-02 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 | | | |

### Analytical Measurement Ranges

| PARAMETER | AMR | UNITS |
|---|---|---|
| WBC | 0.02–246.8 | x $10^3$/µL |
| RBC | 0.00–7.50 | x $10^6$/µL |
| HGB | 0.0–25.0 | g/dL |
| HCT | 8.3–79.8 | % |
| MCV | 58–139 | fL |
| RDW | 10.0–29.8 | % |
| PLT | 0.00–3000 | x $10^3$/µL |
| MPV | 4.3–17.2 | fL |
| RETC | 0.2–22.9 | % |

### 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 | | | |

Abbott GmbH & Co. KG
Abbott Diagnostics
Max-Planck-Ring 2
65205 Wiesbaden, Germany
Tel. (+49) 6122 580
Fax (+49) 6122 581244
www.abbottdiagnostics.com



Abbott Hematology

AH2205/uk CELL-DYN Ruby 05/08/1