

HumaCount 5D

Outperforming 5-part Hematology System

- › Direct Capillary Process by OptimalCount Technology
- › Distinct 5-part Differentiation
- › Definite Immature Cell Count (LIC, ALY)

CoreLab DX

HEMATOLOGY



Human

Diagnostics Worldwide

5-part Differentiation

Importance of white blood cell differential count

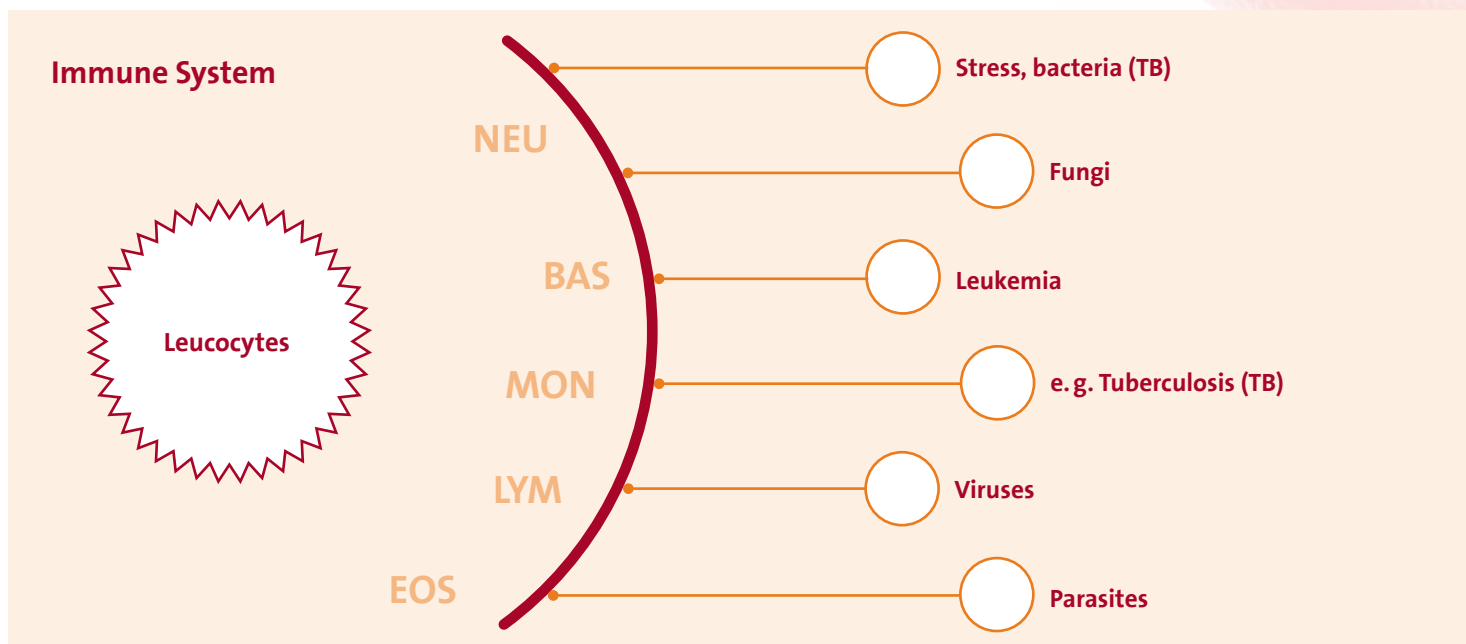
Benefits of a 5-part diff

- Better, targeted assessment of the immune response
- Reduced number of manual blood smears
- Faster reporting time
- Saves costs

«A 5-part differentiation
is mandatory for Eosinophils (EOS)/
Neutrophils (NEU) determination»

5-part diff provides a clear picture of the immune status

The WBC differential divides the white blood cells into the 5 major sub-populations.
Each cell type provides information about an immune response or a disease type



Importance of EOS and NEU separation for a targeted diagnosis

- A high number of eosinophils EOS indicates a parasitic infection
- A high number of neutrophils indicates a bacterial infection

A 3-part system groups cell types, hence providing only limited information on the disease status

- **MID** = MON + EOS
- **GRA** = NEU + EOS + BAS

For the full picture manual blood smears are required or an outperforming 5-part diff system like HumaCount 5D.

HumaCount 5D

Innovations you can count on

5-part diff hematology analyzer

- › Small foot print stand alone system with integrated PC
- › 29 parameters with ATL#% & LIC#%
- › Sample volume: 20 µl
- › Up to 60 samples / hour
- › 2D barcode target value transfer



Direct capillary blood process by OptimalCount Technology

Same accuracy compared to venous blood.
Total capillary blood volume of 20 µl,
0 µl dead volume.

Distinct 5-part diff

Providing excellent differentiation of
NEU, EOS, MON, LYM and BAS,
based on 3D scatter technology.

Definite immature cell count

Quantitative count and percentage value of
Large Immature Cells (LIC),
A-typical Lymphocytes (ALY)

5-part diff or CBC-count mode switch

One click option to switch
between full 5-Part Diff or CBC-count
at each sample.

Direct Capillary Blood Process

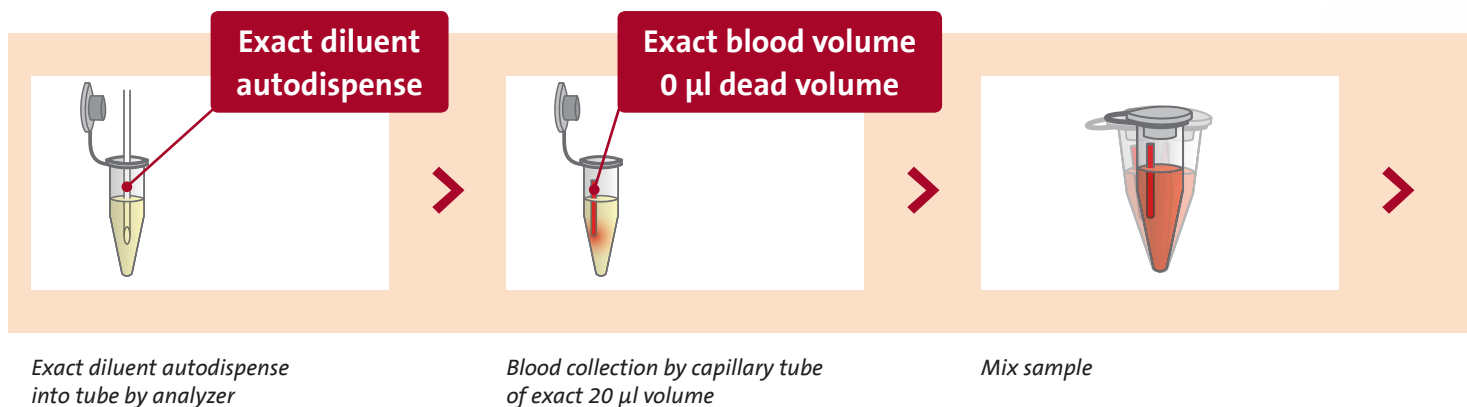
Easy, less painful 5-part results from one drop of blood

OptimalCount Technology for capillary samples

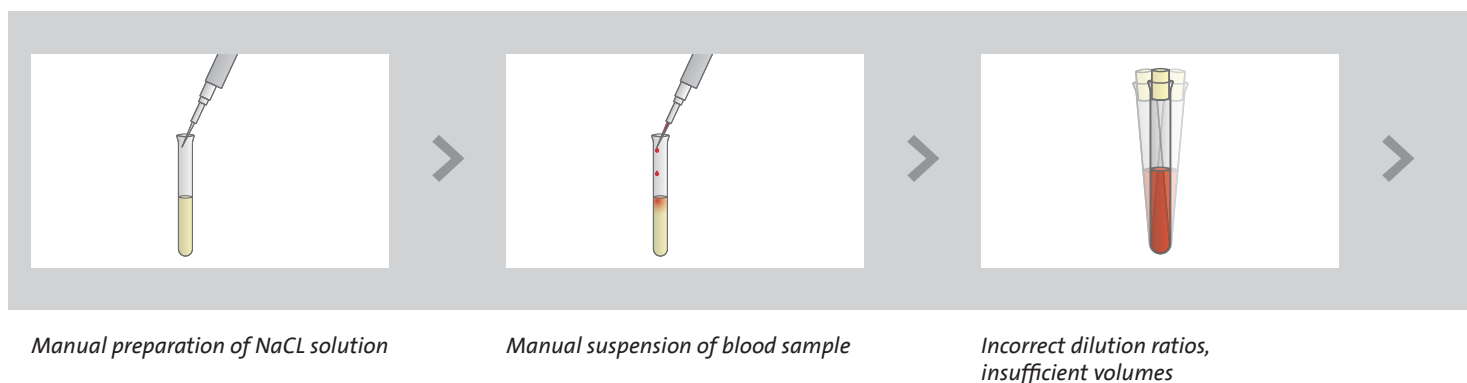
- > Accuracy as exact as on venous samples
- > Defined blood volume by capillary tube
- > Total sample volume 20 μ l, 0 μ l dead volume
- > Dilution defined by auto-diluent dispense
- > No manual steps needed



Direct capillary blood process with OptimalCount Technology



Conventional capillary mode – error prone manual method



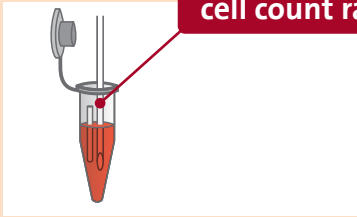
«OptimalCount Technology guarantees, accuracy as exact as on venous samples, 20 μ l sample volume, 0 μ l dead volume, defined dilution – by auto dispense.»



Benefit of Capillary Blood Sample

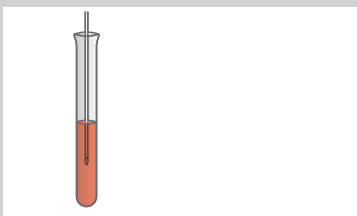
- > No physician needed to collect capillary blood
- > Quick, simple and less painful blood collection
- > Mandatory for infants and small children, elderly with fragile veins and severely burned patients
- > Equally suitable for use with children and adults

Defined high cell count rate



Correct dilution ratios due to auto-diluent suspension, a defined blood volume by capillary tube, plus count of ~3000 cells result in a high accuracy, as known only from venous samples!

Defined dilution ratio (process) auto-aspiration of partially diluted sample



Many error prone manual steps, sum up in incorrect dilution ratios, plus a very low number of cells counted in a pre-diluted sample, result in a very low accuracy by conventional analyzers.

Dilution inside analyzer

Distinct 5-part Differentiation

Improved clinical utility

Target diagnosis and treatment by 5-part

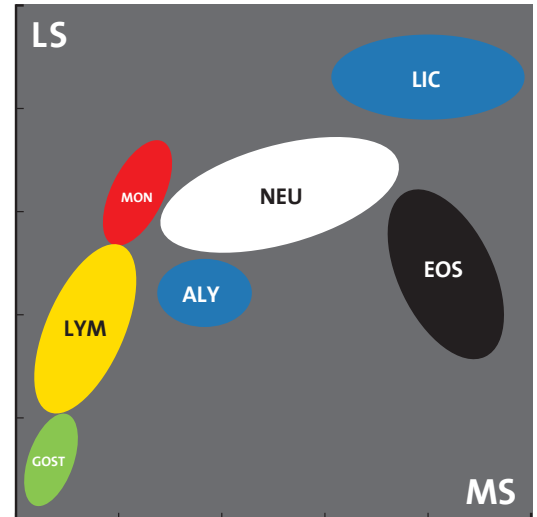
- > Absolute count and percentage of each parameter, NEU, EOS, MON, BAS, LYM, with immediate clinical relevance
- > Ability to detect abnormal cells, LIC, ALY
- > Overcoming restrictions of 3 part systems, such as grouping cell type, such as MON/EOS and NEU/MON/BAS

Better differentiation with 3D scatter technology

3-channel laser detection channel (3D) for:

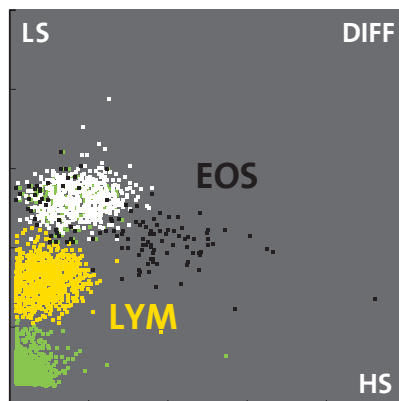
- > Eosinophiles (EOS)
- > Neutrophils (NEU)
- > Monocytes (MON)
- > Lymphocytes (LYM)
- > Basophiles (BAS)

Scatter diagram with all parameters

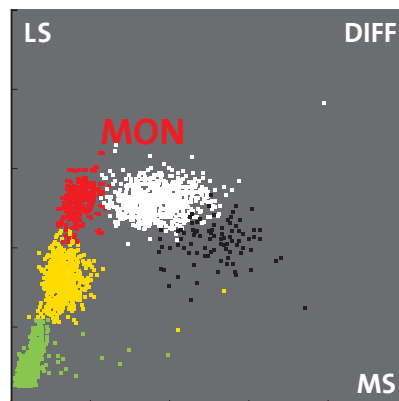


5-part diff and LIC, ALY parameters

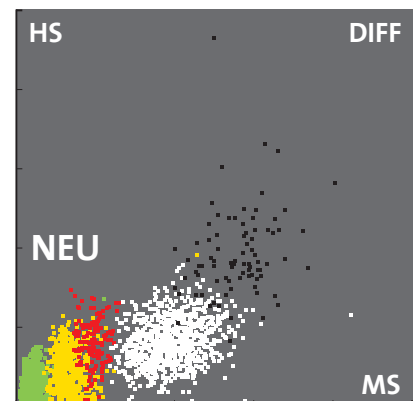
3-channel laser detection for EOS, NEU, MON, LYM



Scatter angle 1

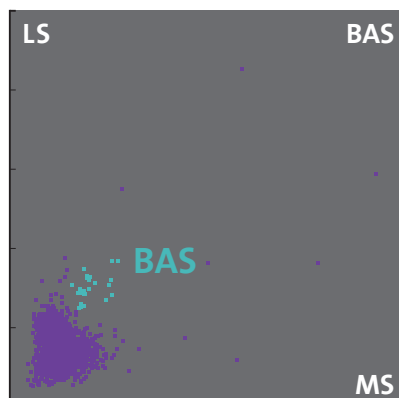


Scatter angle 2

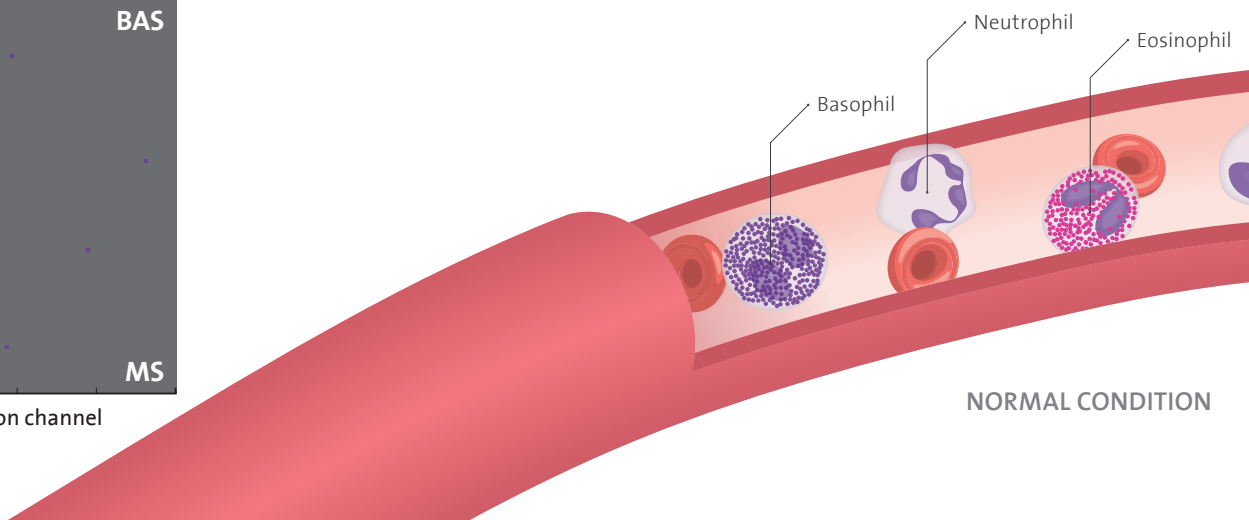


Scatter angle 3

BAS detection channel



Dedicated BAS detection channel



Definite Immature Cell Count

Reliable immune cell analysis (LIC, ALY)

LIC and ALY without blood smears

3D Laser Scatter enables quantitative count and percentage value of Large Immature Cells (LIC) and of A-typical Lymphocytes (ALY)

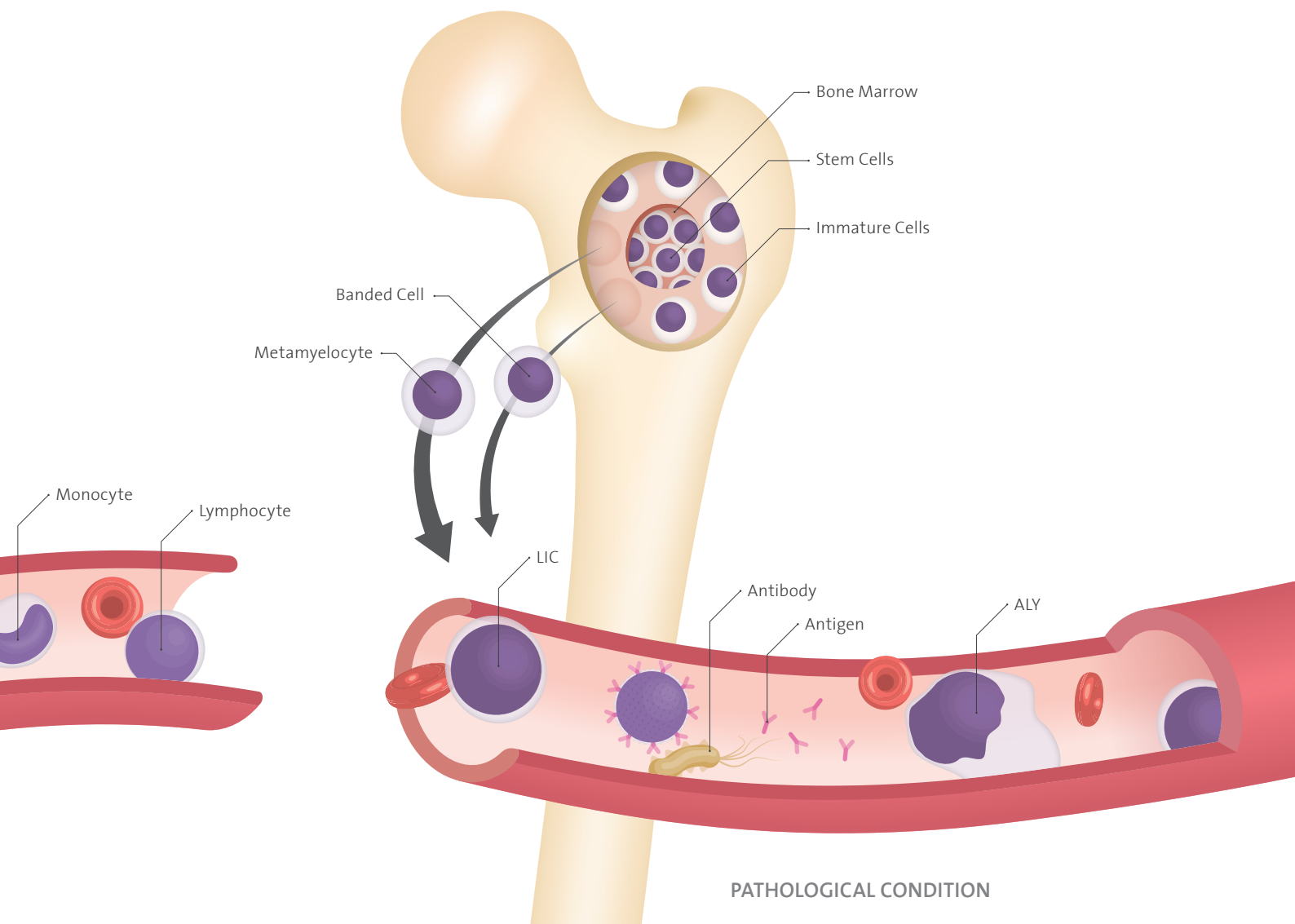
LIC (blasts)

are an excellent routine parameter indicating the balance between leucocytes production, circulation in the body and consumption due to immune defense. High number of LIC are often described as 'left shifted' leukogram, with more banded cells and Metamyelocytes present, while segmented neutrophils are already depleted in the blood.

ALY (lymphoblasts)

is larger than a naïve lymphocyte.

They are increased in nucleus, cytoplasm, by new mRNA and protein synthesis, after activation by an antigen. ALY in blood are always an alert. ALY are seen in blood at acute lymphoblastic leukemia (ALL), viral disease like cytomegalovirus, Epstein Barr Virus and Hepatitis C, bacterial infections like toxoplasmosis, exposure to radiations, drug reactions, immunization or other immune responses.



5-part Diff or CBC-count Mode Switch

Flexible and efficient with one click

One-click reagent optimization

Not in every patient-sample a 5-part Diff is required

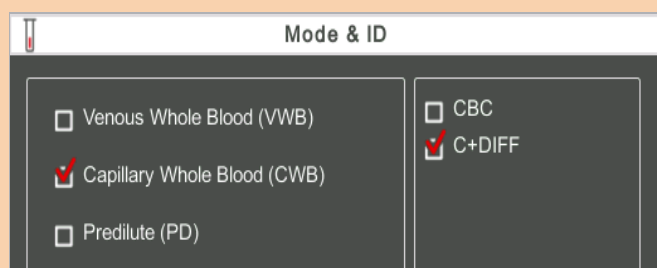
- > Increase your flexibility with our one click option
- > Switch between full 5-part Diff or CBC-count at each sample
- > Optimize your costs by reducing your reagent consumption
5-part Diff = 3 reagents / CBC count = 2 reagents

One-click sample recording

STAT samples required a fast response

A sample is recorded by one-hand operation.

While the sample is provided to the needle, the recording of parameters is started with the same hand. No software buttons need to be pressed. Automated print-out and data-transfer via LIS are supported.



Intuitive, ICON based HUMAN software

- > One click to result
- > One screen provides overview on all 29 parameters, scatter plots and flags

Different tube types supported

- > Small and large primary EDTA tubes
- > Bullet tubes / capillary tubes

HC5D Reagents

REF	Unit/Size
HC5D-Diluent	
16450/10	20 l
HC5D CBC-Lyse	
16450/20	200 ml
HC5D Diff-Lyse	
16450/30	500 ml
HC5D Clean	
16450/60	50 ml
Closed system using RF card	

Control Kit

REF	Unit/Size
HC5D Control (3 Levels, Multi-parameter)	
16450/40	2 x 3 x 3 ml
Target value upload via 2D barcode	



Calibrator Kit

REF	Unit/Size
HC-Calibrator	
17400/50	1 x 2 ml
Calibrator for use on all HUMAN hematology systems	

