CoreLab DX

HumaCount 5D

Outstanding 5-part diff hematology system

- Direct capillary blood process by OptimalCount Technology
- Distinct 5-part diff
- Definite count of abnormal leukocytes

Hematology

Human
Diagnostics Worldwide

5-part Diff

Importance of white blood cell differential count

Benefits of a 5-part diff

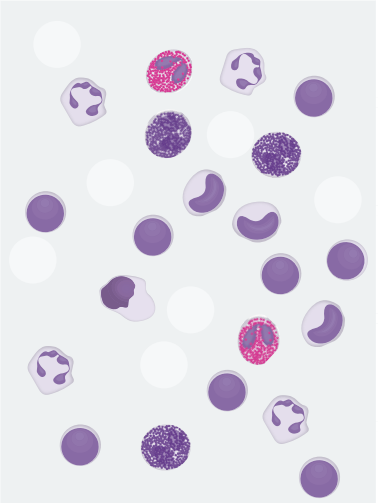
- Better, targeted assessment of the immune response
- Reduced number of manual blood smears
- Faster reporting time
- Saves costs

«A 5-part diff is essential 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.

Cells of the immune system

Leucocytes	Parameter		
		LYM – Lymphocytes	Viral infections
		MON – Monocytes	Chronic infections, inflammations
		NEU – Neutrophils	Stress, bacterial infections
		EOS – Eosinophils	Parasitic diseases
		BAS – Basophils	Leukemia, allergies

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 (NEU) 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 for a high performance or an outstanding 5-part diff system like HumaCount 5D.

HumaCount 5D

Innovations you can count on

5-part diff hematology analyzer

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

Direct capillary blood process using OptimalCount Technology

Same accuracy compared to venous blood. Total capillary blood volume of 20 µl and almost no dead volume.

Distinct 5-part diff

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

Definite count of abnormal leukocytes

Quantitative count and percentage value of large immature cells (LIC) and atypical lymphocytes (ALY).

5-part diff or CBC-count mode switch

One click option to switch between full 5-part diff or CBC-count for each sample.

Direct Capillary Blood Process

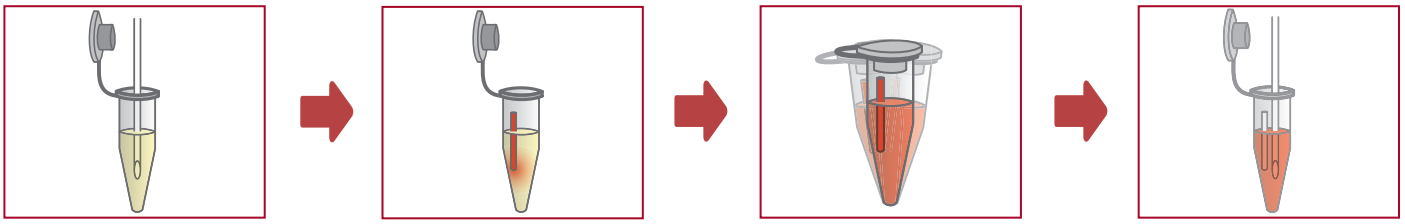
Easy, less painful 5-part diff results from one drop of blood

OptimalCount Technology for capillary samples

- Accuracy as exact as for venous samples
- Blood volume defined by capillary tube
- Total sample volume 20 µl and almost no dead volume
- Dilution defined by auto-diluent dispensing
- No manual steps needed

« OptimalCount Technology guarantees accuracy as exact as with venous samples, 20 µl sample volume, almost no dead volume, and precise dilution – thanks to auto-dispensing.»

Direct capillary blood process with OptimalCount Technology



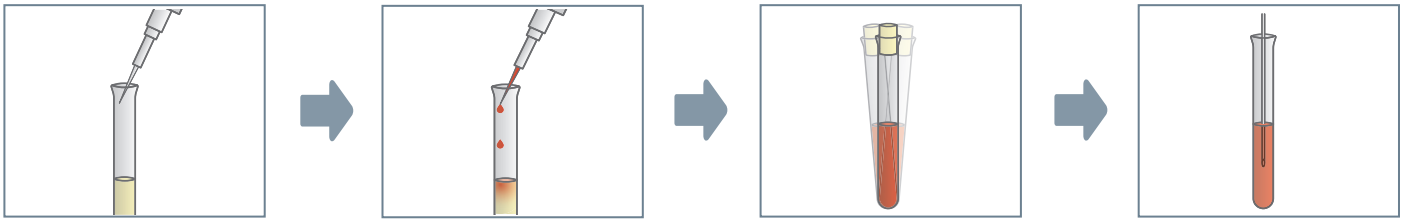
Exact diluent auto-dispensing by analyzer

Blood collection by capillary tube of exactly 20 µl volume

Mix sample

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

Conventional capillary mode – error prone manual method



Manual preparation of NaCL solution

Manual suspension of blood sample

Risk of incorrect dilution ratios, insufficient volumes

Aspiration of a small fraction of the diluted sample, further dilution during analysis

Benefit of Capillary Blood Sample

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

OptimalCount Technology

Correct dilution ratios due to auto-diluent suspension, blood volume defined by capillary tube, plus a count of ~3000 cells result in high accuracy, normally only possible with venous samples.

Conventional capillary mode

Many error-prone manual steps result in incorrect dilution ratios. A very low number of cells counted in a pre-diluted sample leads to very low accuracy with conventional analyzers.

Distinct 5-part Diff

Improved clinical utility

Target diagnosis and treatment with 5-part diff

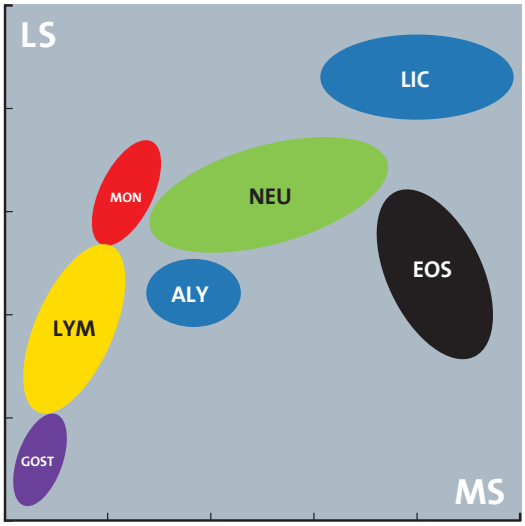
- Absolute count and percentage of each parameter, NEU, EOS, MON, BAS, LYM with immediate clinical relevance
- Ability to detect abnormal cells like LIC and ALY
- Overcomes restrictions of 3-part systems such as grouping of cell types like MID (MON/EOS) and GRA (NEU/EOS/BAS)

Better differentiation with 3D scatter technology

3-channel laser **d**etection (**3D**) for:

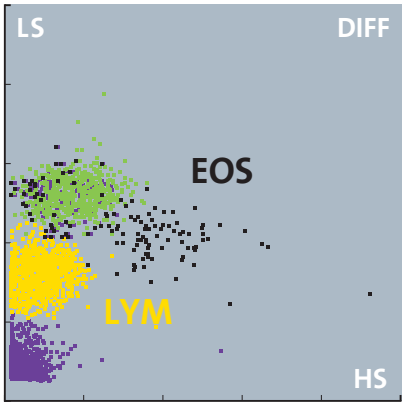
- Eosinophils (EOS)
- Neutrophils (NEU)
- Monocytes (MON)
- Lymphocytes (LYM)
- Basophils (BAS)

Scatter diagram with all parameters

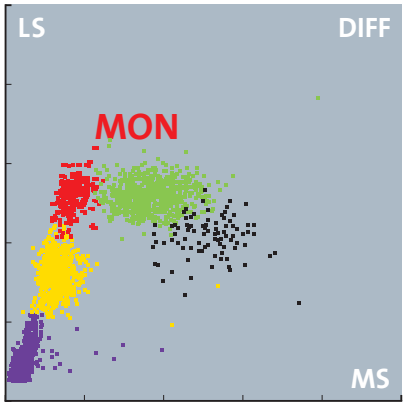


5-part diff and LIC, ALY parameters

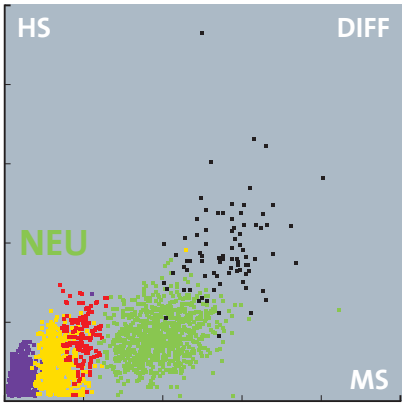
3-channel laser detection for EOS, NEU, MON, LYM



Scatter angle 1

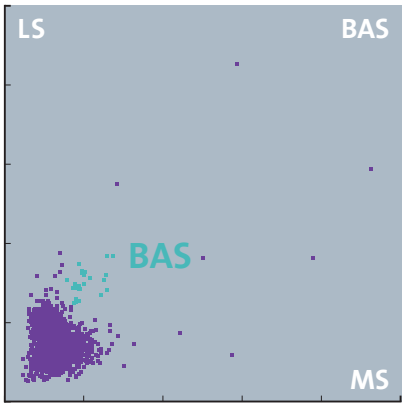


Scatter angle 2

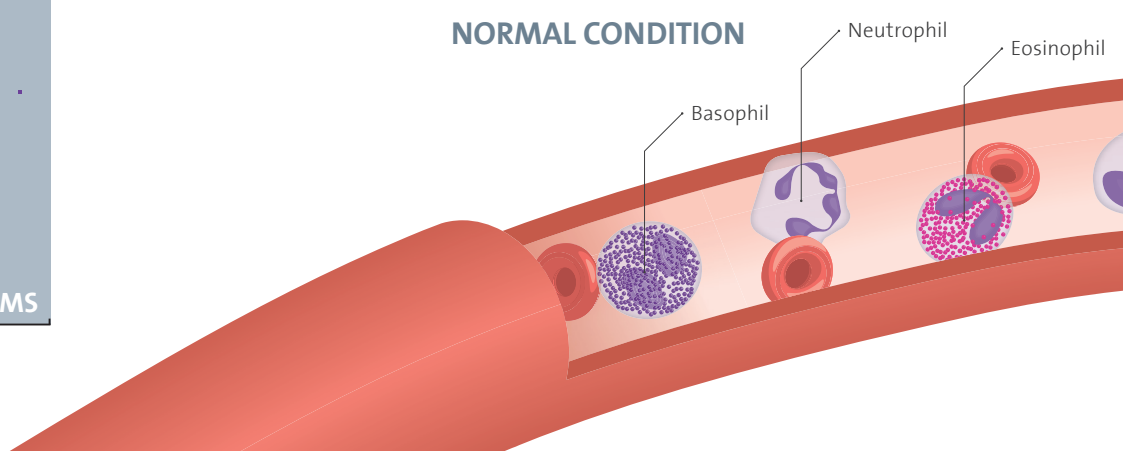


Scatter angle 3

BAS detection channel



Dedicated BAS detection channel



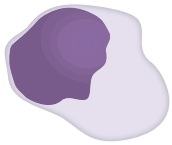
Definite Count of Abnormal Leukocytes

Reliable immune cell analysis (LIC, ALY)

LIC and ALY without blood smears

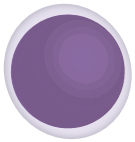
3D laser scatter enables quantitative count and percentage value of large immature cells (LIC) and of atypical lymphocytes (ALY).

ALY (lymphoblasts)

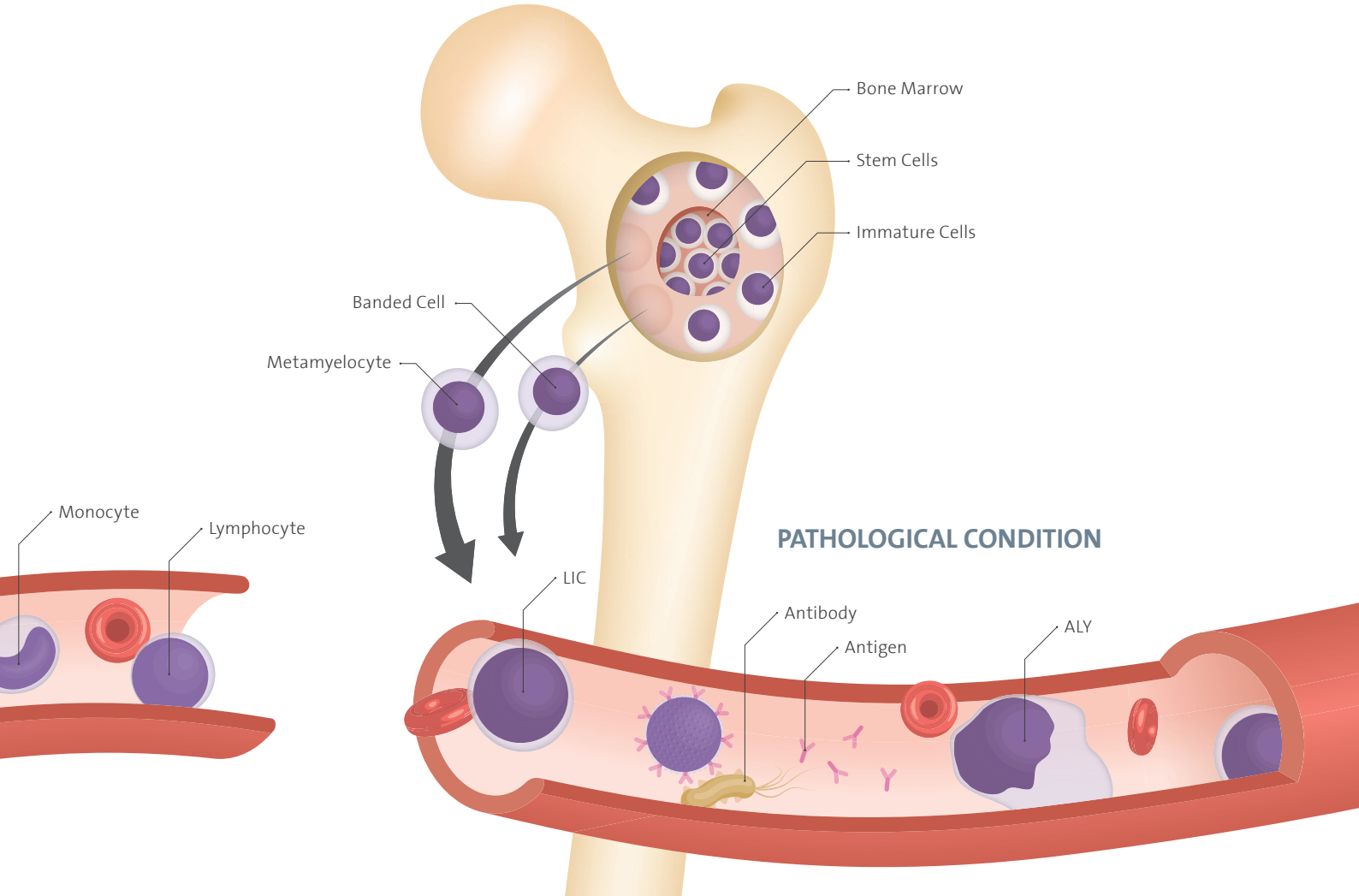


ALY are larger than naive lymphocytes. They are lymphocytes that have increased in size due to activation by an antigen, which in turn triggers increased synthesis of mRNA and protein. ALY in blood are always an alarm signal. ALY are seen in the blood of patients suffering from acute lymphoblastic leukemia (ALL); viral disease such as cytomegalovirus, Epstein Barr Virus, hepatitis C; bacterial infections such as toxoplasmosis; exposure to radiation; drug and immunization reactions; and other immune responses.

LIC (blasts)



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



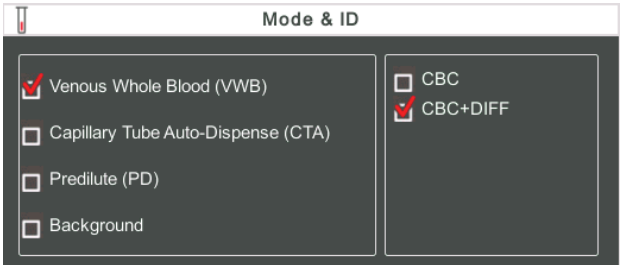
5-part Diff or CBC-count Mode Switch

Flexible and efficient with one click

One-click reagent optimization

Not every patient sample requires 5-part diff

- Increase your flexibility with our one click option
- Switch between full 5-part diff and CBC-count for 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 require fast action

A new sample is recorded with a one-hand operation. When the sample is positioned under the needle for aspiration, the recording of parameters is started with the same hand by depressing the large red switch. Automated printout and data transfer via LIS are supported.

Intuitive, ICON based HUMAN software

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

Different tube types supported

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

HumaCount 5D System Reagents

Reagents*	REF
HC5D-Diluent	16450/10
› Contains 20 l	
HC5D-CBC-Lyse	16450/20
› Contains 200 ml	
HC5D-Diff-Lyse	16450/30
› Contains 500 ml	
HC5D-Clean	16450/60
› Contains 50 ml	

* require RF card

Control	REF
HC5D-Control	16450/40
› Target value upload via 2D barcode	
› 3 levels, multi-parameter	
› Contains 2 x 3 x 3 ml	

Calibrator

HC-Calibrator	17400/50
› For use on all HUMAN hematology systems	
› Contains 1 x 2 ml	

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