

Verein für  
Association pour le  
Associazione per il



medizinische Qualitätskontrolle  
contrôle de qualité médical  
controllo di qualità medico

Report

# Differential Blood Smear H3

MQ 2017-4

## Acknowledgements

The Mythic 18 analyzer was provided by the company Polymed, the ABX Microsemi CRP analyzer by the company Axonlab and the XP-300 analyzer by the Firma Sysmex. MQ employees conducted the measurements.

The findings of the XE-5000 and ADVA 2120 devices and of the microscopic blood counts were generated by the Central Laboratory of Medical Diagnostic HAD of the University Hospital Zurich Hematology Clinic. The lab is ISO/IEC 17025 certified (STS 445). Dr. J-D. Studt is the responsible manager; Prof. MG Manz, M.D., the clinic director.

[www.haematologie.usz.ch](http://www.haematologie.usz.ch)

For information regarding all analyses offered by the University Hospital of Zurich, see:

[www.uzl.usz.ch](http://www.uzl.usz.ch)

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# 1 Sample A

## 1.1 ABX Microsemi CRP



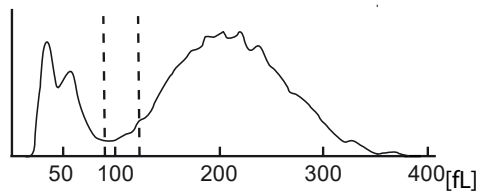
### Findings MQ 2017-4 H3A

24 year old woman

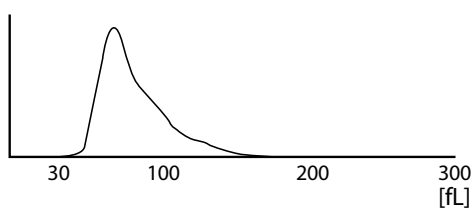
WBC :	9.0	10 <sup>9</sup> /L	MCV :	89.3	fL
RBC :	3.95	10 <sup>12</sup> /L	MCH :	29.8	pg
HGB :	11.8	L g/L	MCHC:	33.4	g/L
HCT :	35.3	L/L	RDW :	13.2	%
PLT :	95	L 10 <sup>9</sup> /L	MPV :	8.6	fL
PCT :	18.6	H 10 <sup>-2</sup> L/L	PDW :	18.6	%

DIFF:					
%LYM:	19.1	%	#LYM:	1.7	10 <sup>9</sup> /L
%MON:	3.5	L %	#MON:	0.3	10 <sup>9</sup> /L
%GRA:	77.4	H %	#GRA:	7.0	H 10 <sup>9</sup> /L

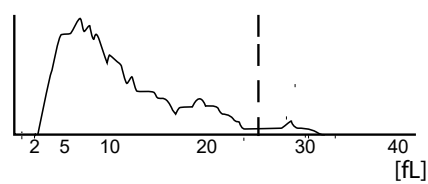
#### WBC



#### RBC



#### PLT

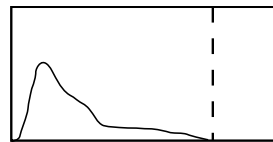
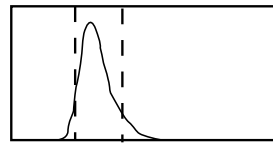
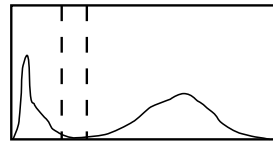


## 1.2 Mythic



### Findings MQ 2017-4 H3A 24 year old woman

WBC	10.9	h	10 <sup>9</sup> /l	3.5 / 10.0
LYM	2.9		10 <sup>9</sup> /l	1.2 / 3.2
MON	0.3		10 <sup>9</sup> /l	0.1 / 1.0
GRA	7.7	h	10 <sup>9</sup> /l	1.2 / 6.8
LYM%	26.7		%	17.0 / 48.0
MON%	2.5		%	2.0 / 10.0
GRA%	70.8		%	43.0 / 76.0
RBC	4.16		10 <sup>12</sup> /l	4.00 / 5.70
HGB	123		g/l	140 / 180
HCT	0.354	l	l/l	0.420 / 0.540
MCV	85.1		fl	80.0 / 100.0
MCH	29.6		pg	26.0 / 34.0
MCHC	347		g/l	310 / 365
RDW	14.1		%	10.0 / 16.0
PLT	70	l	10 <sup>9</sup> /l	150 / 400
MPV	9.0		fl	7.0 / 11.0
PCT	0.063	l	cl/l	0.100 / 0.500
PDW	12.1		%	10.0 / 18.0

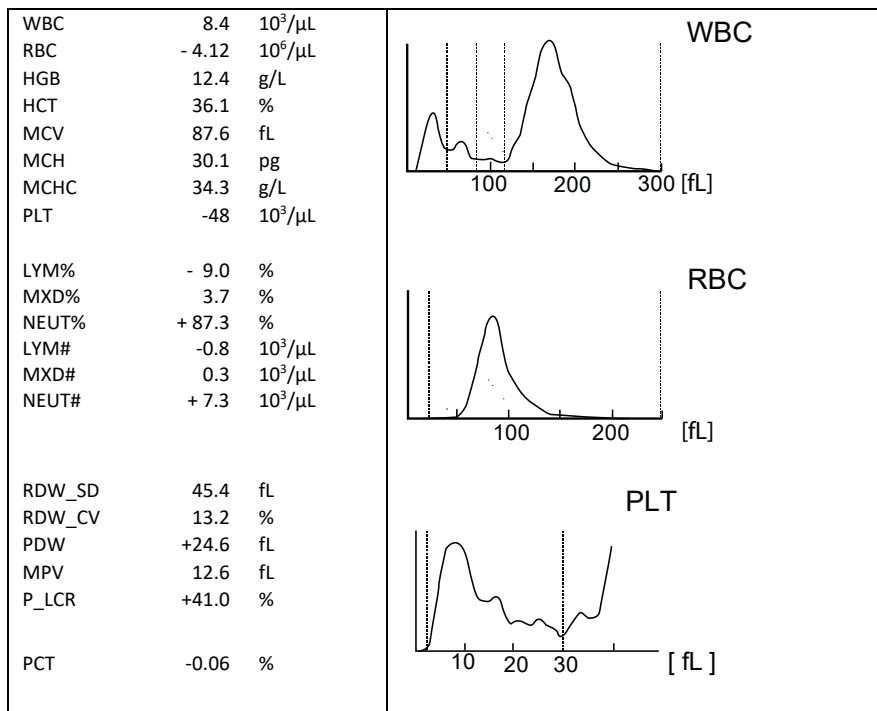


FLAGS : LEUCOCYTOSIS GRANULOCYTOSIS THROMBOPENIA

### 1.3 Sysmex XP300



**Findings MQ 2017-4 H3A**  
24 year old woman

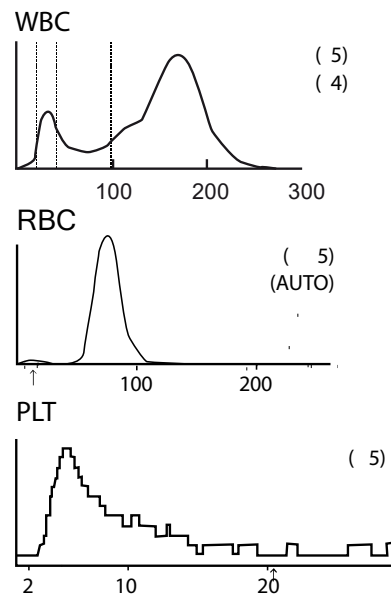


### 1.4 Nihon Kohden Celltac alpha



#### Findings MQ 2017-4 H3A 24 year old woman

WBC :	8.6	10 <sup>3</sup> /uL	
RBC :	4.13	10 <sup>6</sup> /uL	
HGB :	12.3	g/dL	
HCT :	36.7	%	
MCV :	88.9	fL	
MCH:	29.8	Pg	
MCHC :	33.5	10 <sup>9</sup> /L	
PLT:	54	L	10 <sup>12</sup> /L
LY:	1.1	L	[20.8 %]
MO:	0.1		[3.6 %]
GR :	7.4		[75.6H %]
RDWCV:	12.2		%
RDWSD:	43.4		fL
PCT:	0.05	L	%
MPV:	9.3		fL
PDW:	18.6	H	%



## 1.5 Sysmex XE-5000



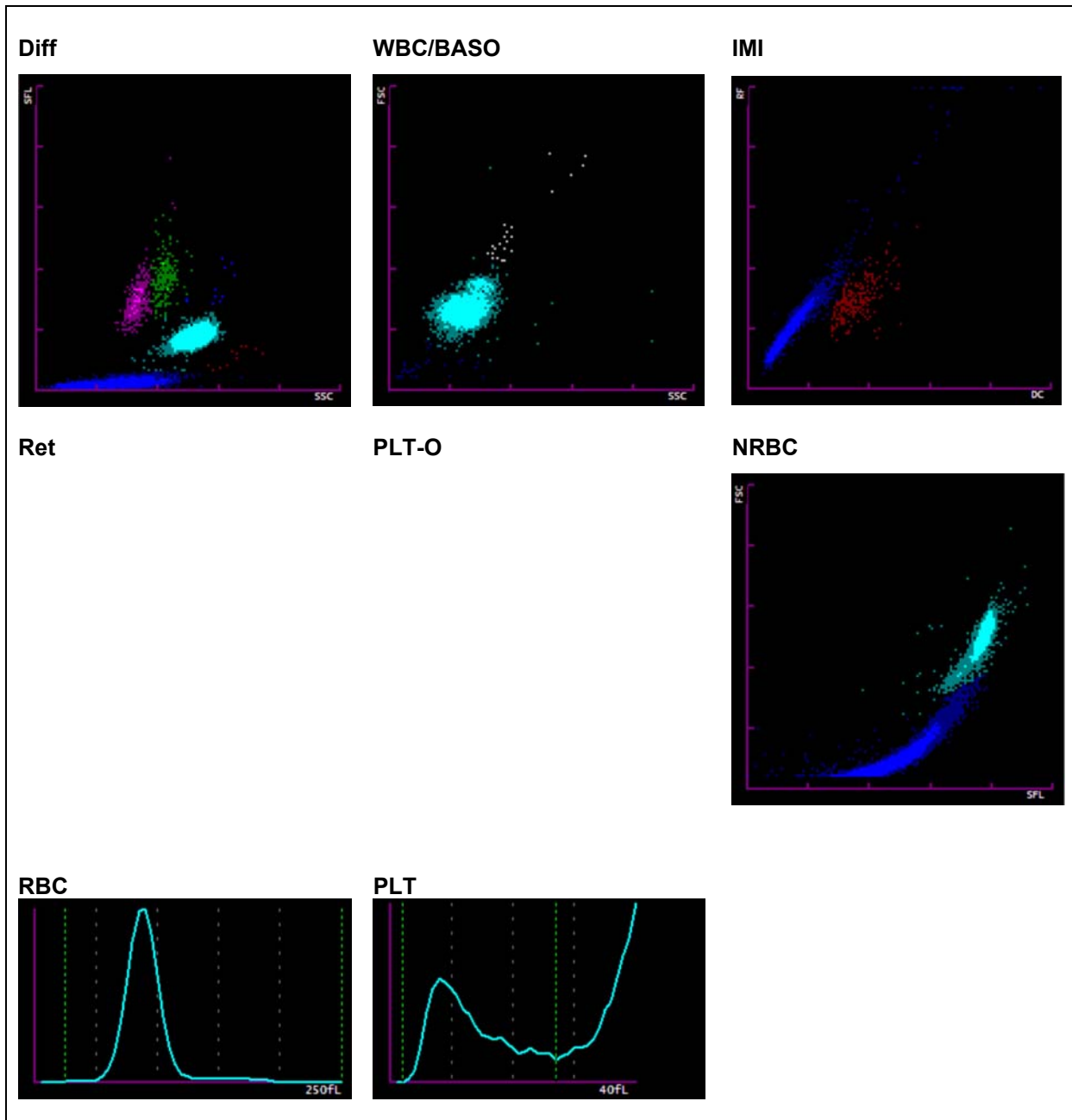
### Findings MQ 2017-4 H3A

24 year old woman

Analysis	Result	Unit	Reference value
<b>Blood Count</b>			
<u>Hemoglobin</u>	122	g/l	
<u>Hematocrit</u>	0.360	l/l	
Erythrocytes	4.09	T/l	
MCV	88.0	fl	80-100
MCH	29.8	pg	26-34
MCHC	339	g/l	310-360
Mikrocytes	13.8	%	11.0-14.8
<u>Thrombocytes</u>	* 45	G/l	143-400
<u>Leucocytes</u>	8.62	G/l	3.0-9.6
<b>Leucocyte Differentiation</b>			
Neutrophils	* 7.51	G/l	1.40 – 8.00
Monocytes	0.39	G/l	0.16 – 0.95
Eosinophils	0.02	G/l	0.00 – 0.70
Basophils	0.02	G/l	0.00-0.15
Lymphocytes	* 0.68	G/l	1.50 - 4.00
IG abs.	0.02	G/l	0.00 – 0.03
IG %	0.02	%	0.0 – 0.05
NRBC abs.	0.00	G/l	
NRBC	0.0	/100 Lc	



Findings HAD MQ 2017-4 H3A

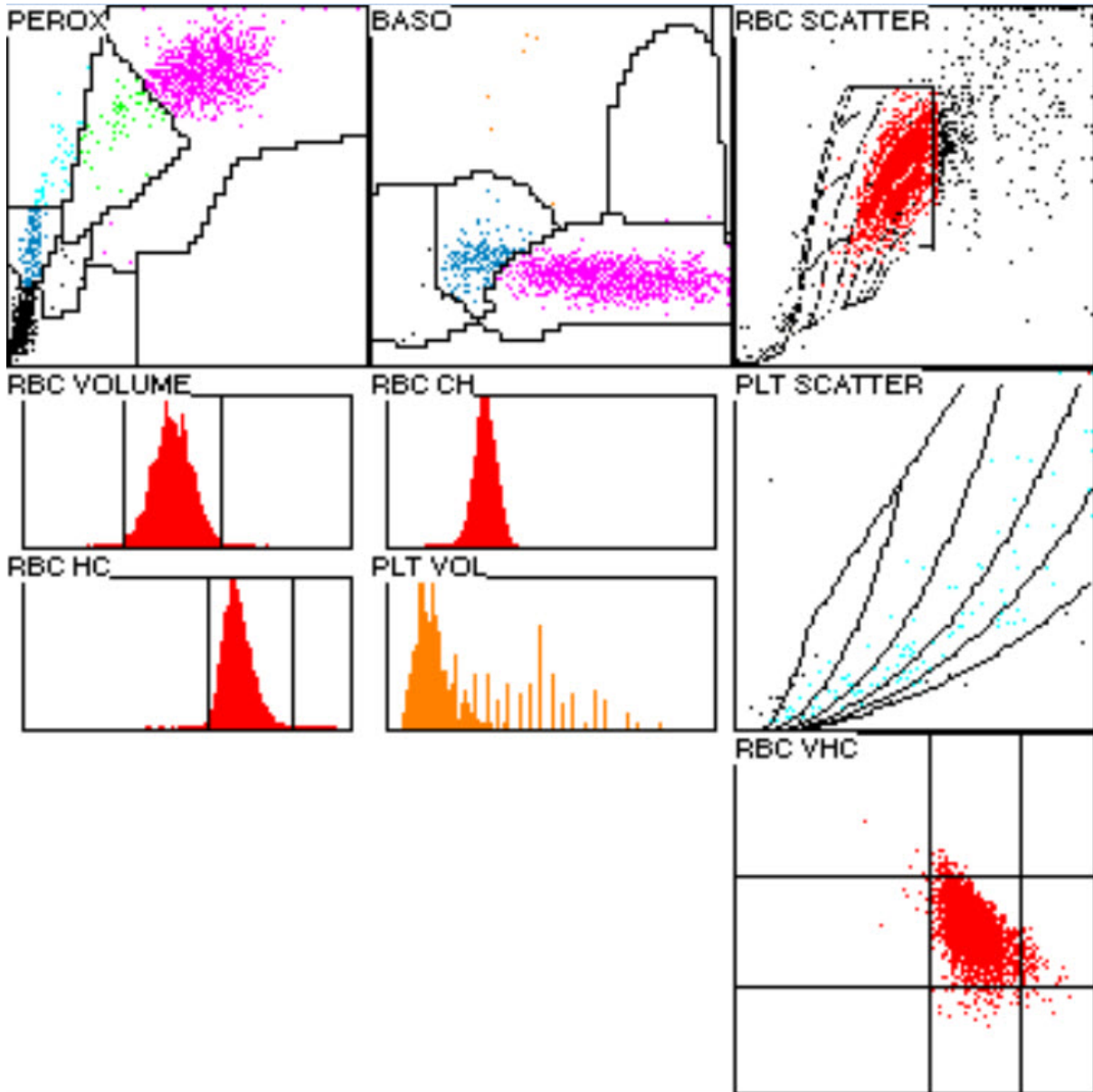


## 1.6 ADVIA 2120



### Findings HAD MQ 2017-4 H3A 24 year old woman

Analysis	Result	Unit	Reference value
<b>Blood Count</b>			
<u>Hemoglobin</u>	121	g/l	134-170
<u>Hematocrit</u>	0.372	l/l	0.400-0,500
Erythrocytes	4.09	T/l	4.2-5.7
MCV	91.0	fl	80-100
MCH	29.7	pg	26-34
MCHC	326	g/l	310-360
Mikrocytes	0.4	%	0-2.0
Macrocytes	0.5	%	0-2.0
Hypochromic Ec	0.5	%	0-2.0
Hyperchromic Ec	0.3	%	0-2.0
RDW	13.1	%	11.0-14.8
<u>Thrombocytes</u>	* 51	G/l	143-400
Vd. L-SHIFT	+	+	None (0)
<u>Leucocytes</u>	8.41	G/l	3.0-9.6
<b>Leucocyte Differentiation</b>			
Neutrophils	6.67	G/l	1.40-8.00
Monocytes	0.24	G/l	0.16-0.95
Eosinophils	0.01	G/l	0.00-0.70
Basophile	0.02	G/l	0.00-0.15
Lymphocytes	* 1.30	G/l	1.50-4.00
LUC	2.1	%	0.0-4.0



## 1.7 Differential Blood Smear

### Findings HAD MQ 2017-4 H3A

24 year old woman

Analysis		Result	Unit	Reference value
Neutrophils total	*	7.40	G/l	1.40-8.00
Monocytes		0.29	G/l	0.16-0.95
Eosinophils		0.04	G/l	0.00-0.70
Basophils		0.04	G/l	0.00-0.15
Lymphocytes	*	0.63	G/l	1.50-4.00
Neutrophils total	*	88.0	%	40.0-74.0
Neutrophils Band		15.0	%	0.0-20.0
Neutrophils Segmented	*	73.0	%	30.0-50.0
Monocytes		3.5	%	3.4-9.0
Eosinophils		0.5	%	0.0-7.0
Basophils		0.5	%	0.0-1.5
Lymphocytes	*	7.5	%	19.0-48.0
Plasmacells		0.0	%	0-0.5
Blasts		0.0	%	0
Promyelocytes		0.0	%	0
Myelocytes		0.0	%	0
Metamyelocytes		0.0	%	0
Nucleated Red Cells		0.0	/100 Lc	

### Commentary

The red blood cell count is normochromic and normocytic. No erythrocytic inclusions capable of being determined. Neutrophilic granulocytes with a fine cytoplasmic granulation, several (all) with large light basophilic cytoplasm inclusions.

Slight anisocytosis of the platelets; several giant platelets capable of being determined during examination.

K. Schreiber / PD. Dr. St. Balabanov

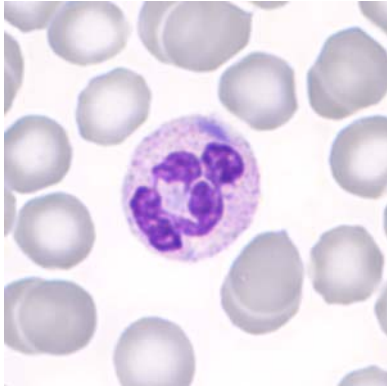


Abb 1. Neutrophil (Seg)

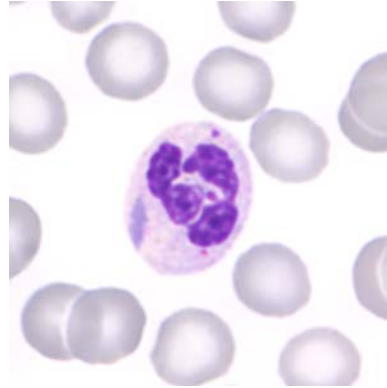


Abb 2. Neutrophil (Seg)

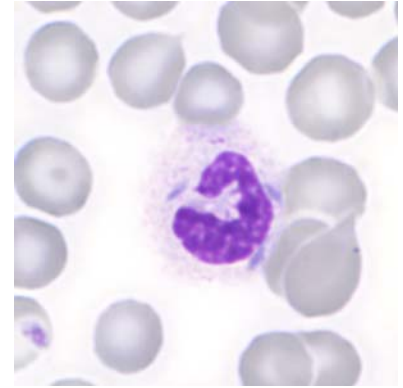


Abb 3. Neutrophil (band)

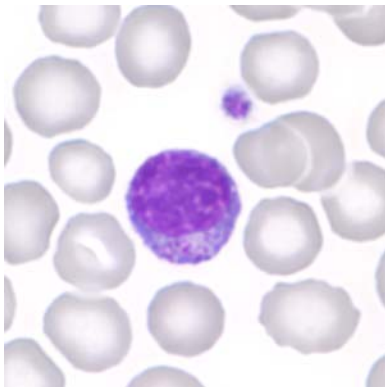


Abb 4. Lymphocyte

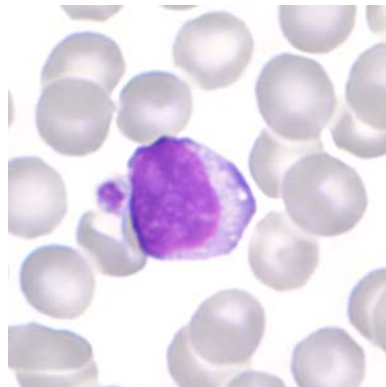


Abb 5. Lymphocyte

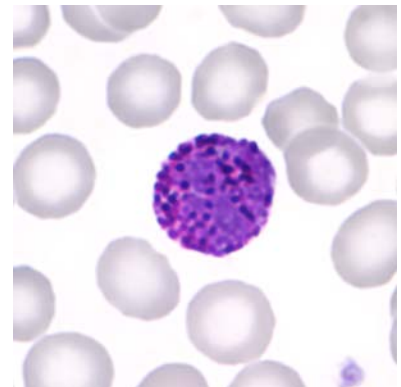


Abb 6. Basophile

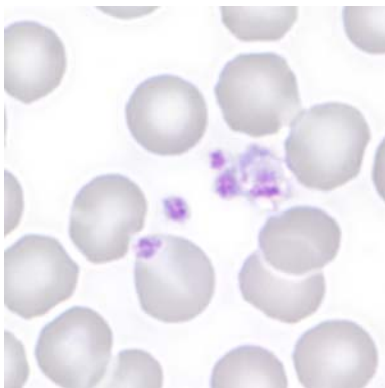


Abb 7. Thrombocytes

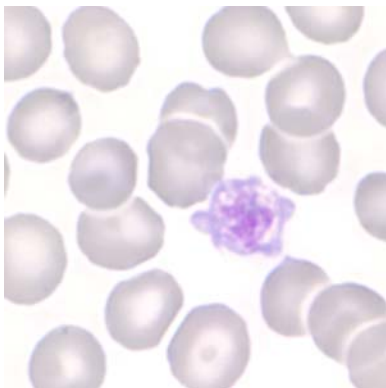


Abb 8. Thrombocyte

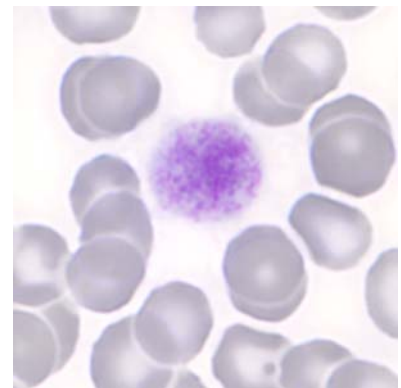


Abb 9. Thrombocyte

## 1.8 Summary of participant results

### Leukocyte Differenzial H3-A

	0	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	>79
<i>Neutrophils Band</i>	5	28	60	131*	56	15	3	3	0	1	1
<i>Neutrophils Segmented.</i>	2				0	5	8	30	63	130*	65
<i>Eosinophils</i>	243*	60									
<i>Basophile</i>	214*	87	2								
<i>Monocytes</i>	43	240*	19	1							
<i>Lymphocytes</i>	2	13	149*	126	7	5		1			
<i>Plasmacells</i>	297*	5	1								
<i>Blasts</i>	292*	10	1								
<i>Promyelocytes</i>	298*	3	1								
<i>Myelocytes</i>	289*	14									
<i>Metamyelozyten</i>	295*	8									
<i>Erythrocytes Nucleated</i>	300*	2	1								
<i>Unknown</i>	293*	6	3								
<i>Smudge cells</i>	293*	9	1								

### Evaluation H3-A

	light	medium	strong		light	medium	strong
<i>Hypersegmentation</i>	49	19	5	<i>Hypochromic Ec</i>	40	5	2
<i>Pelger-Hüet Anomaly</i>	1	0	1	<i>Polychromatic Ec</i>	18	3	
<i>Coarse Granulation</i>	49	14	3	<i>Anisocytes</i>	115	26	
<i>Basophilic Stripling</i>	18	19	77*	<i>Mikrocytes</i>	46	9	
<i>Vacuoles</i>	29	4	0	<i>Makrocytes</i>	27	9	1
<i>Reaktive Lymphocytes</i>	41	9	1	<i>Megalocytes</i>	4		
<i>Atypical Lymphocytes</i>	3	2	1	<i>Poikilocytosis</i>	36	2	
<i>Others</i>	3	2	1	<i>Ovalocytes</i>	28		
				<i>Target Cells</i>	35	11	
				<i>Akanthocytes</i>	12	1	
<i>Anisocytosis</i>	52	102*	80	<i>Echinocytes</i>	26	2	
<i>Megakaryocyte Nucleaus</i>	29	15	10	<i>Sickle Cells</i>			
<i>Granulation</i>	33	21	7	<i>Fragmentocytes</i>	5	1	
<i>Others</i>				<i>Spherocytes</i>	2	1	1
				<i>Stomatocytes</i>	4		
				<i>Basophilic Stripling</i>	5		
				<i>Howell-Jolly Bodies</i>	3		
				<i>Pappenheim Bodies</i>	1		
				<i>Others</i>	3		2

### Commentary

Smear H3-A is from a patient with May-Hegglin anomaly.

## 1.9 Qualab Codes

Summary of the participant codes  
(Bold printed: expected codes)

Code	Text	Number
<b>9</b>	<b>Macrothrombocytes</b>	<b>198</b>
<b>30</b>	<b>Pathologic findings, refer to expert</b>	<b>125</b>
<b>4</b>	<b>Neutrophils, Toxic Changes</b>	<b>84</b>
<b>31</b>	<b>Pathologic findings</b>	<b>84</b>
29	Normal findings	67
<b>8</b>	<b>Leucocytes other:</b>	<b>60</b>
<b>11</b>	<b>Thrombocytes, others</b>	<b>42</b>
2	Neutrophils, left shift	39
1	Neutrophils, hypersegmentation of nucleus	34
5	Atypical lymphocytes, probably reactive	30
19	Targetcells	18
12	Microcytes	17
14	Hypochromic Erythrocytes	16
13	Macrocytes	13
10	Thrombocyte aggregates	12
15	Polychromatophilic Red Cells	7
16	Poikilocytosis	7
27	Erythrocytes, other	7
22	Rouleaux	6
17	Elliptocytes/Ovalocytes	5
6	Atypical lymphocytes, probably neoplastic	3
20	Fragmentocytes	3
21	Spherocytes	2
25	Basophilic strippling	2
26	Teardrops	2
28	Parasites	1
99	Total	306

## 2 Sample B

### 2.1 ABX Microsemi CRP



#### Findings MQ 2017-4 H3B

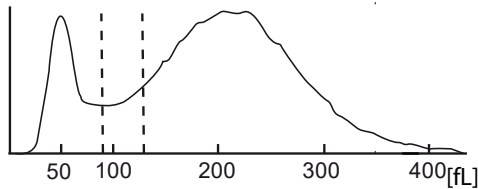
67 year old woman

WBC :	28.0	H	10 <sup>9</sup> /L	MCV :	88.0	fL
RBC :	2.63	L	10 <sup>12</sup> /L	MCH :	30.3	pg
HGB :	8.0	L	g/L	MCHC:	34.4	g/L
HCT :	23.2	L	L/L	RDW :	13.0	%
PLT :	53	I	10 <sup>9</sup> /L	MPV :	10.6	fL
PCT :	0.056	L	10 <sup>-2</sup> L/L	PDW :	21.5	H %

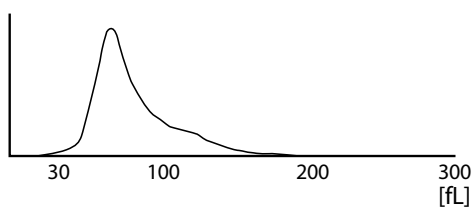
#### WBC FLAGS: G1

DIFF:					
%LYM:	17.4	%	#LYM:	4.9	H 10 <sup>9</sup> /L
%MON:	7.1	%	#MON:	2.0	H 10 <sup>9</sup> /L
%GRA:	75.5	%	#GRA:	21.1	H 10 <sup>9</sup> /L

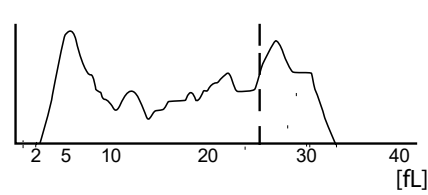
#### WBC



#### RBC



#### PLT





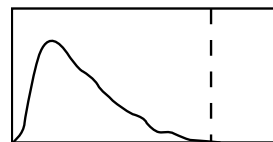
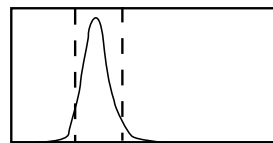
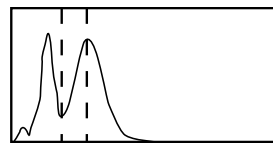
## 2.2 Mythic



### Findings MQ 2017-4 H3B

67 year old woman

WBC	7.0		10 <sup>9</sup> /l	3.5 /	10.0
LYM	2.3		10 <sup>9</sup> /l	1.2 /	3.2
MON	1.5	H	10 <sup>9</sup> /l	0.1 /	1.0
GRA	3.2		10 <sup>9</sup> /l	1.2 /	6.8
LYM%	33.5		%	17.0 /	48.0
MON%	21.5	H	%	2.0 /	10.0
GRA%	45.5		%	43.0 /	76.0
RBC	3.48	I	10 <sup>12</sup> /l	4.00 /	5.70
HGB	110	I	g/l	140 /	180
HCT	0.290	L	l/l	0.420 /	0.540
MCV	83.3		fl	80.0 /	100.0
MCH	31.6		pg	26.0 /	34.0
MCHC	379	H	g/l	310 /	365
RDW	15.2		%	10.0 /	16.0
PLT	186		10 <sup>9</sup> /l	150 /	400
MPV	9.9		fl	7.0 /	11.0
PCT	0.184		cl/l	0.100 /	0.500
PDW	18.5	h	%	10.0 /	18.0



FLAGS: FL2FL3FL4  
 MONOCYTOSIS  
 ANEMIA COLD AGGLUTININ

### 2.3 Sysmex XP300



#### Findings MQ 2017-4 H3B 67 year old woman

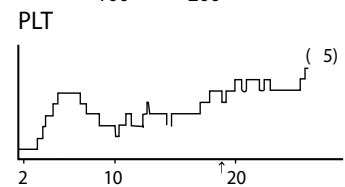
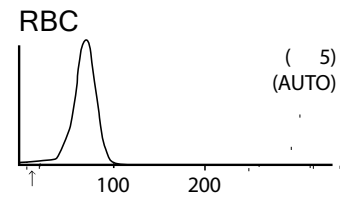
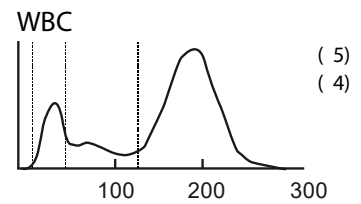
WBC	+27.8	$10^3/\mu\text{L}$	<p>WBC</p>
RBC	-2.64	$10^6/\mu\text{L}$	
HGB	-8.0	g/dL	
HCT	-22.9	%	
MCV	86.7	fL	
MCH	30.3	pg	
MCHC	34.9	g/dL	
PLT	46	$10^3/\mu\text{L}$	<p>RBC</p>
LYM%	-16	%	
MXD%	+13.1	%	
NEUT%	+70.9	%	
LYM#	+4.4	$10^3/\mu\text{L}$	
MXD#	+3.6	$10^3/\mu\text{L}$	
NEUT#	+19.8	$10^3/\mu\text{L}$	<p>PLT</p>
RDW_SD	+51.2	fL	
RDW_CV	+18.6	%	
PDW	--	fL	
MPV	--	fL	
P_LCR	--	%	
PCT	--	%	

## 2.4 Nihon Kohden Celltac alpha



### Findings MQ 2017-4 H3B 67 year old woman

WBC :	27.9	H	10 <sup>3</sup> /uL
RBC :	2.69	L	10 <sup>6</sup> /uL
HGB :	8.8	L	g/dL
HCT :	23.7	L	%
MCV :	88.1		fL
MCH :	32.7		Pg
MCHC :	37.1	H	10 <sup>9</sup> /L
PLT :	46	*	10 <sup>12</sup> /L
LY :	5.0	H	[20.8 %]
MO :	0.6		[3.6 %]
GR :	22.3	H	[75.6H %]
RDWCV :	14.6		%
RDWSD :	51.5		fL
PCT :	0.06	L	%
MPV :	12.2		fL
PDW :	16.3		%



## 2.5 Sysmex XE-5000

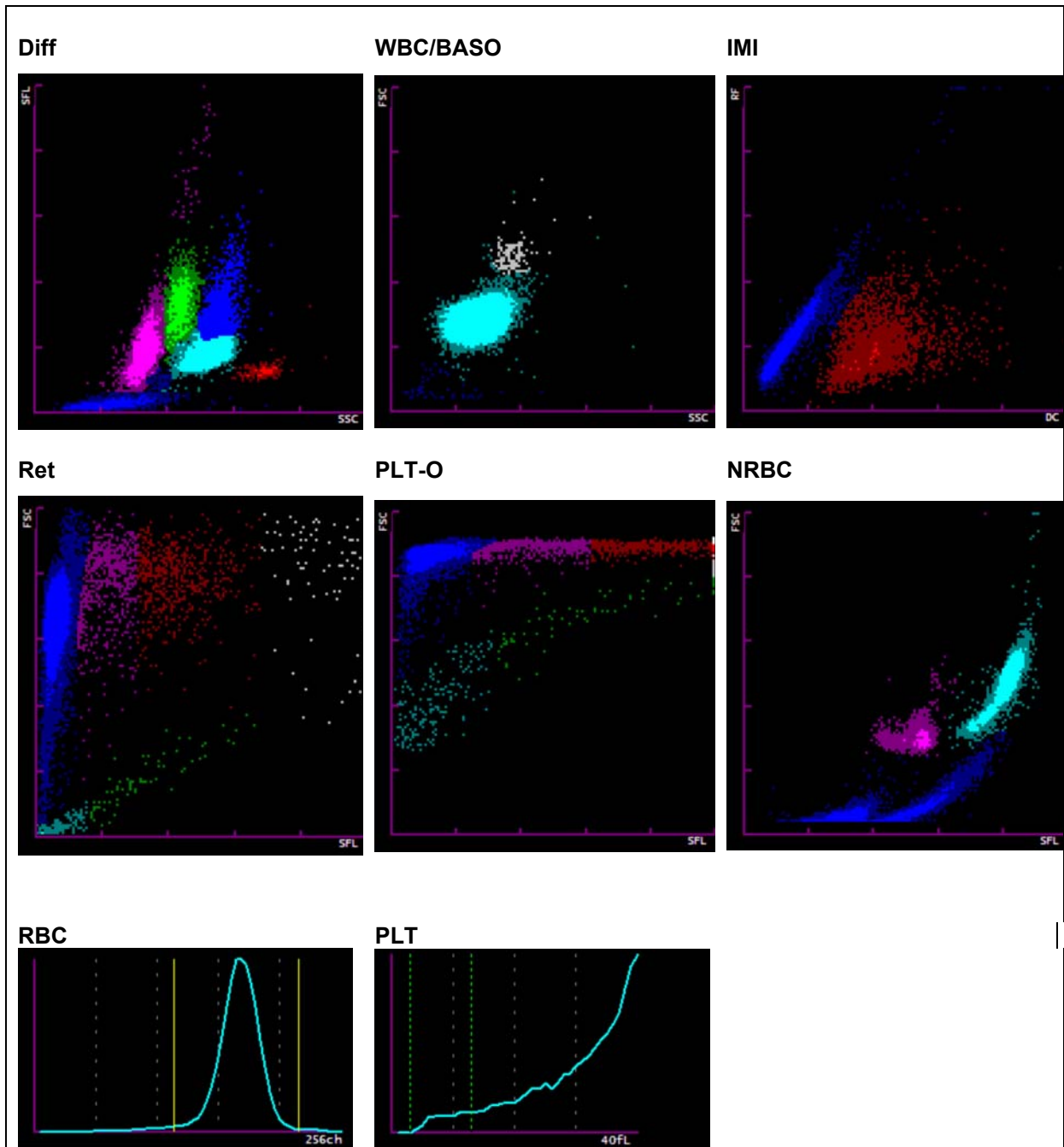


### Findings MQ 2017-4 H3B

67 year old woman

Analysis	Result	Unit	Reference value
<b>Blood Count</b>			
Hemoglobin	* 67	g/l	117-153
Hematocrit	* 0.205	l/l	0.350-0.460
Erythrocytes	* 2.25	T/l	3.9-5.2
MCV	91.1	fl	80-100
MCH	29.8	pg	26-34
MCHC	327	g/l	310-360
Mikrocytes	* 22	G/l	143-400
Thrombocytes	* 23.32	G/l	3.0-9.6
Leucocytes	* 67	g/l	117-153
<b>Leucocyte Differentiation</b>			
Neutrophils	* 17.93	G/l	1.40-8.00
Monocytes	* 2.86	G/l	0.16-0.95
Eosinophils	0.34	G/l	0.00-0.70
Basophils	0.10	G/l	0.00-0.15
Lymphocytes	2.09	G/l	1.50-4.00
IG abs.	1.90	G/l	0.00-0.03
IG %	8.1	%	0.0-0.5

Findings HAD MQ 2017-4 H3B

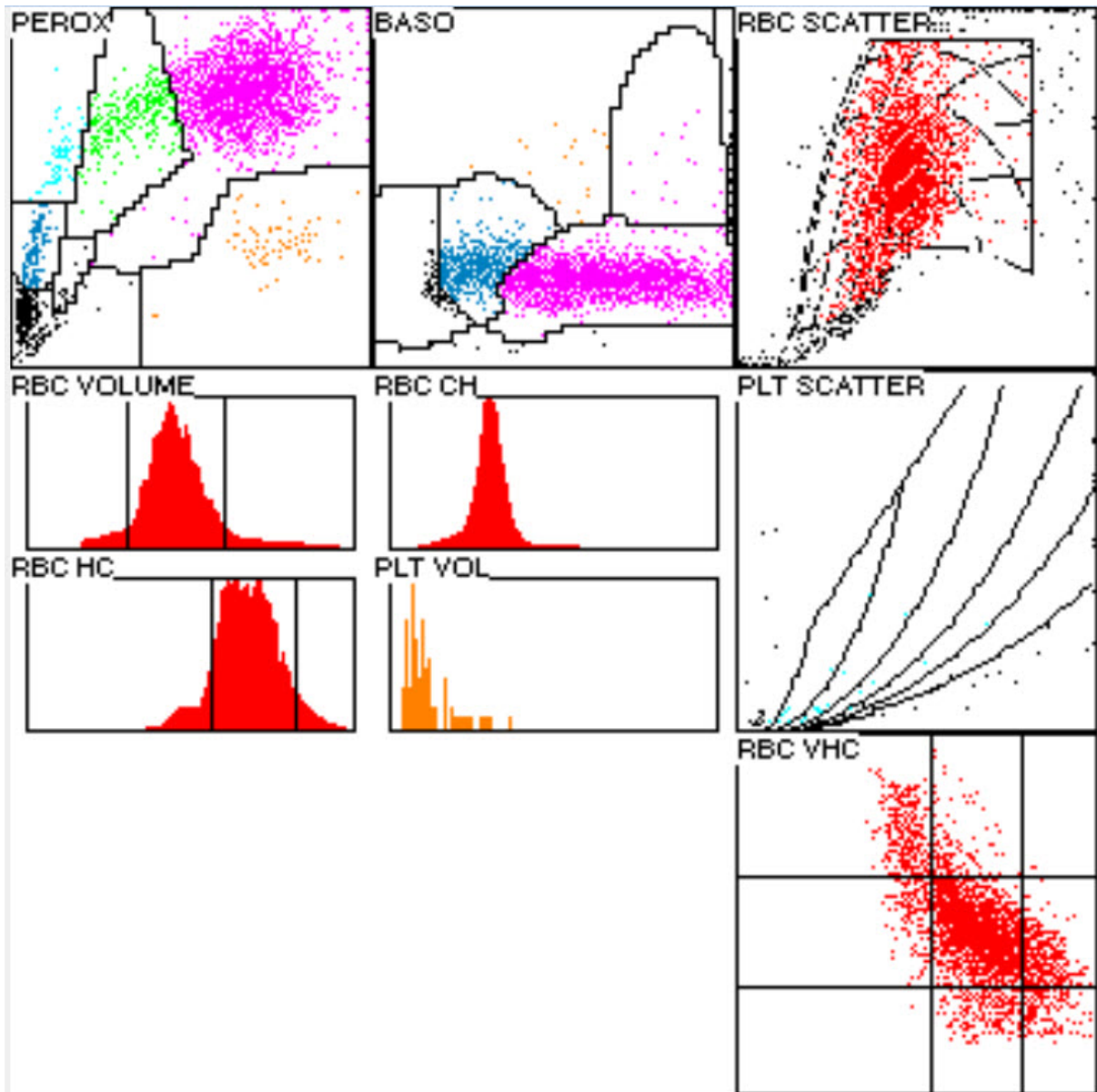


## 2.6 ADVIA 2120



### Findings HAD MQ 2017-4 H3B 67 year old woman

Analysis		Result	Unit	Reference value
<b>Blood Count</b>				
Hemoglobin	*	73	g/l	134-170
Hematocrit	*	0.221	l/l	0.400-0.500
Erythrocytes	*	2.43	T/l	4.2-5.7
MCV		91.0	fl	80-100
MCH		30.1	pg	26-34
MCHC		331	g/l	310-360
Mikrocytes	*	5.6	%	0-2.0
Makrocytes	*	6.4	%	0-2.0
Hypochromic Ec	*	9.3	%	0-2.0
Hyerchromic Ec	*	5.2	%	0-2.0
RDW	*	23.3	%	11.0-0-14.8
Thrombocytes			G/l	143-400
Vd. L-SHIFT		+	+	Keine (0)
Leukocytes	*	24.89	G/l	3.0-9.6
<b>Leucocytes Differentiation</b>				
Neutrophils	*	21.73	G/l	1.40-8.00
Monocytes	*	1.42	G/l	0.16-0.95
Eosinophils		0.29	G/l	0.00-0.70
Basophils		0.09	G/l	0.00-0.15
Lymphocytes	*	1.07	G/l	1.50-4.00
LUC		0.29	%	0.0-4.0



## 2.7 Differential Blood Smear

### Findings MQ 2017-4 H3B

67 year old woman

Analysis		Result	Unit	Reference value
<b>Leucocytes Differentiation</b>				
Neutrophils total	*	18.66	G/l	1.40-8.00
Monocytes	*	1.56	G/l	0.16-0.95
Eosinophils		0.33	G/l	0.00-0.70
Basophils		0.00	G/l	0.00-0.15
Lymphocytes	*	1.33	G/l	1.50-4.00
Neutrophils total	*	84.0	%	40.0-74.0
Neutrophils Band	*	30.0	%	0.0-20.0
Neutrophils Segmented	*	54.0	%	30.0-50.0
Monocytes		7.0	%	3.4-9.0
Eosinophils		1.5	%	0.0-7.0
Basophils		0.0	%	0.0-1.5
Lymphocytes	*	6.0	%	19.0-48.0
Plasmacells		0.0	%	0-0.5
Blasts		0.0	%	0
Promyelocytes		0.0	%	0
Myelocytes	*	1.0	%	0
Metamyelocytes	*	0.5	%	0
Others/ damaged cells		0.0	%	0
Erythroblasts	*	12.0	/100 Lc	0

### Commentary

Red blood cell count, slightly hypochromic and slightly anisocytic, with few microcytes and macrocytes, infrequent megalocytes, discrete polychromasia during examination. Pronounced poikilocytosis with several acanthocytes, few target cells and spherocytes. Few with basophilic stippling, seldom Howell-Jolly bodies and erythrocytic inclusions (most likely compatible with Pappenheimer bodies). 2-5 fragmentocytes per field of view. 12.0 erythroblasts/100 leukocytes; the number of leukocytes was corrected.

Left shift; the neutrophilic granulocytes have a coarse cytoplasmic granulation. Proliferation of myeloid preliminary stages up to 1.0% of myelocytes. Lymphocytes and monocytes morphologically inconspicuous.

Clear thrombocytopenia, with anisocytosis and giant forms upon examination.

K. Schreiber / PD. Dr. St. Balabanov



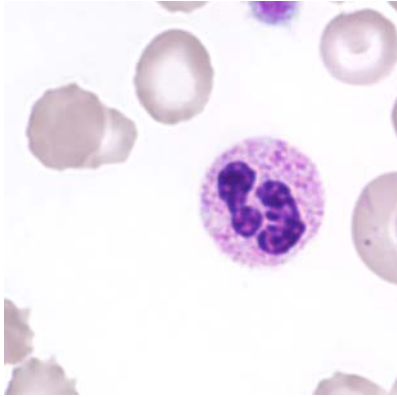


Abb 1. Neutrophil (Seg)

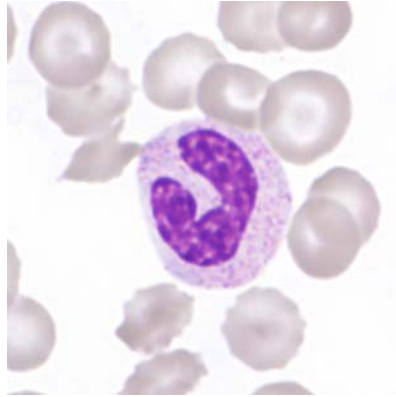


Abb 2. Neutrophil (Band)

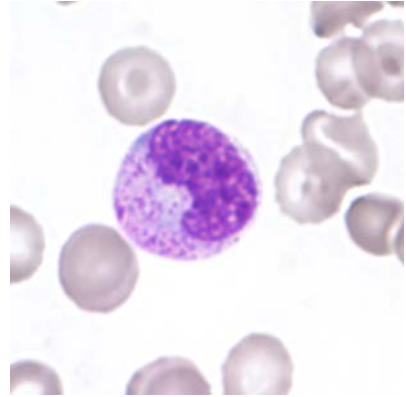


Abb 3. Metamyelocyte

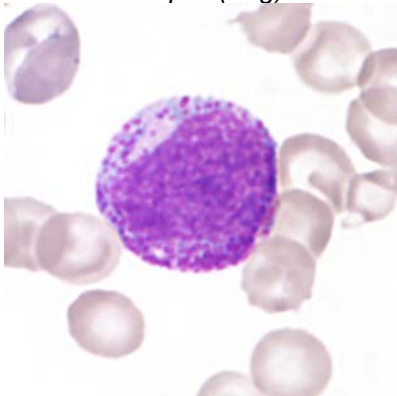


Abb 4. Myelocyte

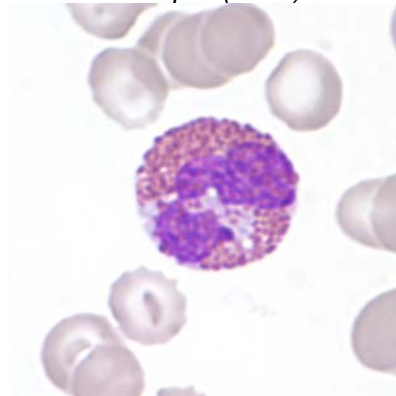


Abb 5. Eosinophil

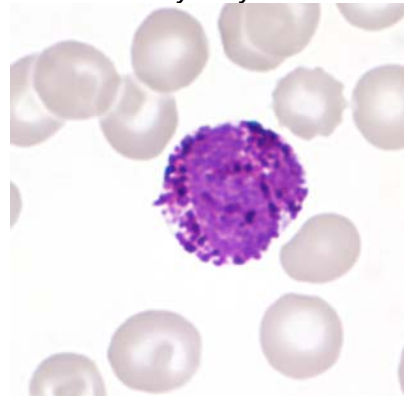


Abb 6. Lymphocyte (small, normal)

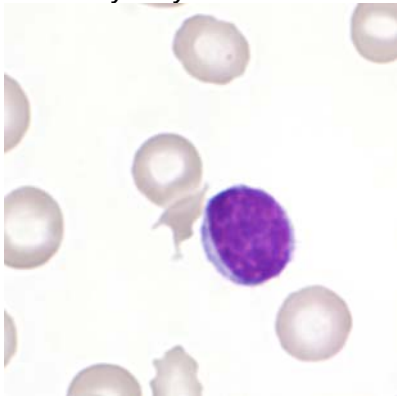


Abb 7. Lymphocyte

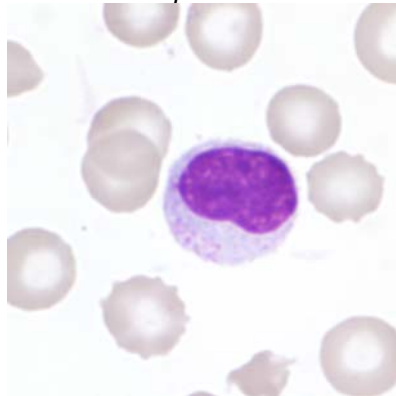


Abb 8. Lymphocyte (LGL)

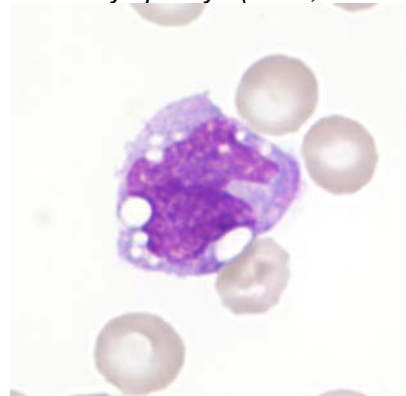


Abb 9. Monocyte

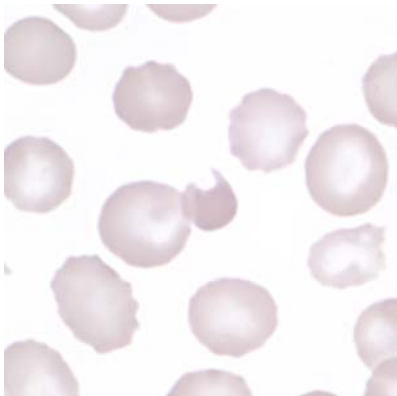


Abb 10. Fragmentocyte

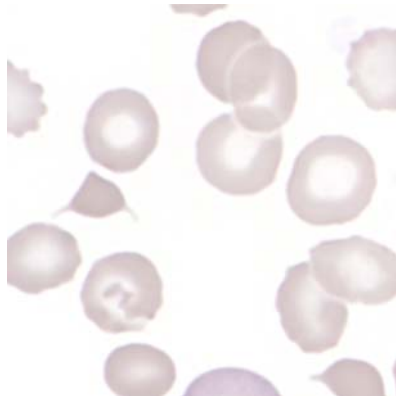


Abb 11. Fragmentocyte

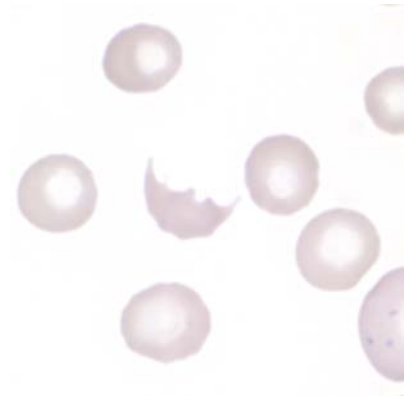


Abb 12. Fragmentocyte

## Summary of participant results

### Leukocyte Differential H3-B

	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	>79
<i>Neutrophils Band</i>	1	6	8	43	58	81*	71	27	5	2	
<i>Neutrophils Segmented.</i>	2			13	39	84	72	59*	24	8	1
<i>Eosinophils</i>	85	210*	6				1				
<i>Basophile</i>	232*	66	2	2							
<i>Monocytes</i>	20	110	129*	42	1						
<i>Lymphocytes</i>	3	14	139*	111	27	4	1	2			1
<i>Plasmacells</i>	294*	6	1	1							
<i>Blasts</i>	267*	18	7	7	3						
<i>Promyelocytes</i>	248*	45	9								
<i>Myelocytes</i>	143	123*	28	8							
<i>Metamyelozyten</i>	146*	111	41	4							
<i>Erythrocytes Nucleated</i>	84	6	76	130*	6						
<i>Unknown</i>	275*	12	7	4	4						
<i>Smudge cells</i>	284*	15	3								

### Evaluation H3-B

	<i>light</i>	<i>medium</i>	<i>strong</i>		<i>light</i>	<i>medium</i>	<i>strong</i>
<i>Hypersegmentation</i>	11	4	2	<i>Hypochromic Ec</i>	61*	68	26
<i>Pelger-Hüet Anomaly</i>	4	1	1	<i>Polychromatic Ec</i>	58*	121	38
<i>Coarse Granulation</i>	52	123*	56	<i>Anisocytes</i>	39*	118	87
<i>Basophilic Stripling</i>	24	6	1	<i>Mikrocytes</i>	91*	52	7
<i>Vacuoles</i>	50	17	0	<i>Makrocytes</i>	86*	61	9
<i>Atypical Lymph, reactive</i>	29	16	1	<i>Megalocytes</i>	49*	15	
<i>Atypical Lymph, neoplastic</i>	3	1	1	<i>Poikilocytosis</i>	71	74*	22
<i>Others</i>	6	6	2	<i>Ovalocytes</i>	47	12	1
				<i>Target Cells</i>	89*	50	2
				<i>Akanthocytes</i>	72	32*	2
<i>Anisocytosis</i>	92*	61	19	<i>Echinocytes</i>	50	19	5
<i>Megakaryocyte Nucleaus</i>	11	10	1	<i>Sickle Cells</i>	9	4	
<i>Granulation</i>	26	10	3	<i>Fragmentocytes</i>	89*	70	13
<i>Others</i>				<i>Spherocytes</i>	24	10	2
				<i>Stomatocytes</i>	14	2	0
				<i>Basophilic Stripling</i>	89*	25	3
				<i>Howell-Jolly Bodies</i>	82*	12	0
				<i>Pappenheim Bodies</i>	23	15	1
				<i>Others</i>	2	1	1

### Commentary

Smear H3-B comes from a patient with known idiopathic thrombocytopenic purpura and haemorrhagic shock.

## 2.8 Qualab Codes

Summary of the participant codes  
(Bold printed: expected codes)

Code	Text	Number
<b>30</b>	<b>Pathologic findings, refer to expert</b>	<b>242</b>
<b>15</b>	<b>Polychromatophilic Red Cells</b>	<b>138</b>
<b>2</b>	<b>Neutrophils, left shift</b>	<b>136</b>
4	Neutrophils, Toxic Changes	94
<b>20</b>	<b>Fragmentocytes</b>	<b>94</b>
<b>16</b>	<b>Poikilocytosis</b>	<b>58</b>
14	Hypochromic Erythrocytes	53
9	Macrothrombocytes	41
13	Macrocytes	37
31	Pathologic findings	36
19	Targetcells	34
27	Erythrocytes, other	34
25	Basophilic stripping	33
24	Howell-Jolly bodies	29
11	Thrombocytes, others	25
12	Microcytes	23
5	Atypical lymphocytes, probably reactive	17
6	Atypical lymphocytes, probably neoplastic	10
21	Spherocytes	10
8	Leucocytes other:	9
22	Rouleaux	8
1	Neutrophils, hypersegmentation of nucleus	7
3	Pelger Hüet Anomaly	3
17	Elliptocytes/Ovalocytes	3
18	Stomatocytes	3
10	Thrombocyte aggregates	2
26	Teardrops	2
28	Parasites	1
29	Normal findings	1
99	Total	306