

# SUMMARY STATISTICS

## EQA round: DIF1/21 - Peripheral Blood Morphology Evaluation

Deadline (EQA round closed): 19.03.2021

Key:	ELG ... expert laboratories group	> ... possible result (found by ELG, but consensus not reached)
	AV, >>> ... assigned value type CVE (consensus of ELG)	
	RAR ... range of acceptable results	
	RoM ... robust average of all results	

	Sample A			Sample B		
	AV	RAR	RoM	AV	RAR	RoM
<b>WBC - differential count</b>						
Blasts	0	0,000 - 0,018	0,000	0,630	0,550 - 0,700	0,584
Promyelocytes	0	0,000 - 0,018	0,000	0,003	0,000 - 0,028	0,005
Neutrophil myelocytes	0	0,000 - 0,018	0,000	0,020	0,005 - 0,050	0,017
Neutrophil metamyelocytes	0	0,000 - 0,018	0,000	0,009	0,000 - 0,036	0,009
Neutrophil bars	0,008	0,000 - 0,036	0,010	0,013	0,003 - 0,043	0,014
Segmented neutrophil granulocytes	0,423	0,356 - 0,497	0,425	0,073	0,043 - 0,121	0,068
Eosinophils - immature forms	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Eosinophil segmented granulocytes	0,066	0,035 - 0,109	0,063	0,002	0,000 - 0,018	0,001
Basophilic granulocytes	0,011	0,001 - 0,036	0,011	0,003	0,000 - 0,028	0,003
Monocytes	0,087	0,050 - 0,133	0,076	0,089	0,030 - 0,140	0,077
Lymphocytes	0,404	0,366 - 0,477	0,413	0,144	0,099 - 0,202	0,208
Plasma cells	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Erythroblasts (number)	0	0,000 - 2,000	0,000	1,000	0,000 - 4,000	1,265

Sample A			Sample B		
<b>WBC - morphology</b>					
21	No changes	15 %	3	No changes	2,1 %
5	Agranulation	3,5 %	1	Giant bands and metamyelocytes	0,7 %
6	Atypical/reactive/pathological monocytes/promono.	4,2 %	>>> 49	Agranulation	35 %
7	Denuded nuclei/cells, nuclear shadows / smudge cells	4,9 %	> 44	Hyposegmentation / asegmentation / pelgeroid	31 %
> 18	Vacuolisation	13 %	2	Auer rods	1,4 %
13	LGL/big lymphocytes	9,2 %	5	Döhle bodies	3,5 %
>>> 114	Lymphocytes - reactive forms	80 %	> 59	Atypical/reactive/pathological monocytes/promono.	42 %
5	Lymphocytes - atypical forms (except "hairy")	3,5 %	> 80	Denuded nuclei/cells, nuclear shadows / smudge cells	56 %
			16	Cytoplasmatic fragments	11 %
			>>> 69	Vacuolisation	49 %
			5	LGL/big lymphocytes	3,5 %
			8	Lymphocytes - reactive forms	5,6 %
			2	"Hairy" lymphocytes	1,4 %
			31	Lymphocytes - atypical forms (except "hairy")	22 %
			1	Nucleus fragments of neutrophiles	0,7 %

<b>WBC - relative changes of count</b>					
15	Normal count	11 %	>>> 131	Neutropenia	92 %
>>> 95	Neutropenia	67 %	11	Lymphocytosis	7,7 %
19	Lymphocytosis	13 %	>>> 71	Lymphocytopenia	50 %
> 100	Eosinophilia	70 %	> 34	Monocytosis	24 %
> 29	Basophilia	20 %	3	Monocytopenia	2,1 %
6	Monocytosis	4,2 %	>>> 118	Left shift	83 %
3	Left shift	2,1 %			

<b>RBC - morphology</b>					
>>> 103	No changes	73 %	1	No changes	0,7 %
40	Normocytosis	28 %	7	Normocytosis	4,9 %
1	Microcytosis	0,7 %	3	Microcytosis	2,1 %
3	Anisocytosis	2,1 %	1	Macrocytosis	0,7 %
1	Poikilocytosis	0,7 %	>>> 137	Anisocytosis	96 %
16	Eliptocytes, ovalocytes	11 %	> 77	Poikilocytosis	54 %
4	Spherocytes	2,8 %	>>> 122	Eliptocytes, ovalocytes	86 %
7	Stomatocytes	4,9 %	> 44	Spherocytes	31 %
1	Dacryocytes	0,7 %	4	Stomatocytes	2,8 %
5	Echinocytes	3,5 %	1	Drepanocytes	0,7 %
6	Target cells	4,2 %	>>> 135	Dacryocytes	95 %

Sample A			Sample B		
<b>RBC - morphology</b>					
2	Howell-Jolly bodies	1,4 %	1	Acanthocytes	0,7 %
1	Parasite inclusions (eg. malaric plasmodia)	0,7 %	4	Echinocytes	2,8 %
1	Rouleaux formation	0,7 %	5	Target cells	3,5 %
1	RBC agglutination	0,7 %	>>> 82	Schistocytes (and other fragmentocytes)	58 %
			16	Polychromasia	11 %
			8	Hypochromia	5,6 %
			> 65	Basophilic stippling	46 %
			2	Howell-Jolly bodies	1,4 %
			2	Cabot rings	1,4 %
			3	Rouleaux formation	2,1 %
			1	Pappenheimer bodies	0,7 %
			1	RBC agglutination	0,7 %
<b>Platelets - morphology</b>					
> 63	No changes	44 %	3	No changes	2,1 %
> 77	Large platelets	54 %	>>> 129	Large platelets	91 %
3	Small platelets	2,1 %	8	Small platelets	5,6 %
1	Platelet aggregates	0,7 %	5	Platelet aggregates	3,5 %
7	Platelets hypogranulation	4,9 %	>>> 109	Platelets hypogranulation	77 %
			>>> 56	Megakaryocytic nucleus fragments	39 %
<b>Clinical recommendation - smear</b>					
15	Blood smear is pathological	11 %	>>> 140	Blood smear is pathological	99 %
>>> 125	Blood smear within physiological limits or with reactive changes	88 %			
<b>Clinical recommendation - examination</b>					
5	An examination by the specialist/haematologist is recommended	3,5 %	>>> 141	An examination by the specialist/haematologist is recommended	99 %
>>> 137	An examination by the specialist/haematologist is not necessary	96 %	1	An examination by the specialist/haematologist is not necessary	0,7 %
<b>Diagnosis - anaemia</b>					
1	Exact determination impossible	0,7 %	3	Exact determination impossible	2,1 %
1	Normocytosis	0,7 %	5	Normocytosis	3,5 %
			1	Hypochromia	0,7 %
<b>Diagnosis - acute leukaemia</b>					
2	Without closer determination	1,4 %	>>> 59	Without closer determination	42 %
2	AML (acute myeloid leukemia)	1,4 %	1	ALL (acute lymphoblastic leukemia)	0,7 %
			>>> 72	AML (acute myeloid leukemia)	51 %
<b>Diagnosis - myelodysplastic syndrome</b>					
			1	Myelodysplastic syndrome	0,7 %
<b>Diagnosis - chronic myeloproliferative disease</b>					
			3	Exact determination impossible	2,1 %
			30	Myelofibrosis	21 %
<b>Diagnosis - mature lymphocytic cells neoplasms</b>					
			1	Exact determination impossible	0,7 %
<b>Diagnosis - platelets disorders</b>					
			12	Thrombocytopenia	8,5 %
<b>Diagnosis - other</b>					
> 35	Viral infection incl. inf. mononucleosis	25 %			
1	Parasitic infection	0,7 %			
>>> 81	Other reactive changes	57 %			
> 45	Allergy	32 %			
4	Other disease	2,8 %			
<b>Smear quality</b>					
136	Acceptable	96 %	139	Acceptable	98 %
4	Not acceptable (give a reason)	2,8 %	2	Not acceptable (give a reason)	1,4 %
<b>Staining</b>					
139	Acceptable	98 %	139	Acceptable	98 %
1	Not acceptable (give a reason)	0,7 %	2	Not acceptable (give a reason)	1,4 %

<b>Sample A</b>	<b>Sample B</b>
<b>Maximal achievable score: 69</b> Successful participants (success 60 % and more): 136 (it is 96 %) Minimal success in this round: 37,7 % Maximal success in this round: 100,0 %	<b>Maximal achievable score: 123</b> Successful participants (success 60 % and more): 124 (it is 87 %) Minimal success in this round: 20,3 % Maximal success in this round: 100,0 %
<b>Number of participants: 142</b> <b>Number of the participants that succeeded:</b> in both samples: 122 (it is 86 %) in one sample: 16 (it is 11 %) in no sample: 4 (it is 3 %)	