

SUMMARY STATISTICS

EQA round: DIF1/18 - Peripheral Blood Morphology Evaluation

Dead line (EQA round closed): 23.03.2018

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
WBC - differential count						
Blasts	0,736	0,668 - 0,795	0,710	0	0,000 - 0,018	0,000
Promyelocytes	0	0,000 - 0,018	0,001	0	0,000 - 0,018	0,000
Neutrophil myelocytes	0	0,000 - 0,018	0,001	0	0,000 - 0,018	0,000
Neutrophil metamyelocytes	0	0,000 - 0,018	0,001	0	0,000 - 0,018	0,000
Neutrophil bars	0,002	0,000 - 0,018	0,004	0,013	0,000 - 0,043	0,018
Segmented neutrophil granulocytes	0,013	0,003 - 0,043	0,019	0,575	0,500 - 0,660	0,590
Eosinophil granulocytes - immature forms	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Eosinophil segmented granulocytes	0	0,000 - 0,018	0,002	0,021	0,005 - 0,050	0,021
Basophilic granulocytes	0	0,000 - 0,018	0,000	0,006	0,000 - 0,028	0,006
Monocytes	0,070	0,039 - 0,115	0,064	0,063	0,035 - 0,109	0,065
Lymphocytes	0,173	0,125 - 0,235	0,190	0,321	0,245 - 0,390	0,298
Plasma cells	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
----- Erythroblasts (number) -----	1,000	0,000 - 3,000	0,740	0	0,000 - 2,000	0,000

Sample A

Sample B

WBC - morphology

6	No changes	4,3 %	>>> 57	No changes	41 %
1	Giant bands and metamyelocytes	0,7 %	15	Hypergranulation/toxic granulation	11 %
8	Agranulation	5,7 %	2	Agranulation	1,4 %
2	Hypersegmented granulocytes	1,4 %	6	Hypersegmented granulocytes	4,3 %
1	Hyposegmentation or pseudo Pelger anomaly	0,7 %	6	Atypical/reactive monocytes	4,3 %
19	Auer rods	14 %	11	Denuded nuclei/cells, nuclear shadows / smudge cells	7,9 %
>	Atypical/reactive monocytes	30 %	11	Vacuolisation	7,9 %
>>>	Denuded nuclei/cells, nuclear shadows / smudge cells	75 %	35	LGL/big lymphocytes	25 %
3	Cytoplasmatic fragments	2,1 %	58	Lymphocytes - reactive forms	41 %
>	Vacuolisation	47 %	4	Lymphocytes - atypical forms	2,9 %
4	LGL/big lymphocytes	2,9 %	1	Nucleus fragments of neutrophiles	0,7 %
3	Lymphocytes - reactive forms	2,1 %			
14	Lymphocytes - atypical forms	10 %			
1	Nucleus fragments of neutrophiles	0,7 %			

WBC - relative changes of count

>>>	129	Neutropenia	92 %	>>>	130	Normal count	93 %
	3	Neutrophilia	2,1 %		1	Neutrophilia	0,7 %
	3	Lymphocytosis	2,1 %		2	Basophilia	1,4 %
>	80	Lymphocytopenia	57 %		1	Monocytosis	0,7 %
	8	Monocytosis	5,7 %		2	Left shift	1,4 %
	4	Monocytopenia	2,9 %				
	38	Left shift	27 %				

RBC - morphology

2	Microcytosis	1,4 %	>>>	66	No changes	47 %	
>>>	120	Macrocytosis	86 %		64	Normocytosis	46 %
>>>	133	Anisocytosis	95 %		2	Anisocytosis	1,4 %
	25	Poikilocytosis	18 %		2	Poikilocytosis	1,4 %
>>>	110	Eliptocytes, ovalocytes	79 %		4	Eliptocytes, ovalocytes	2,9 %
>>>	70	Spherocytes	50 %		3	Spherocytes	2,1 %
	1	Stomatocytes	0,7 %		36	Stomatocytes	26 %
	13	Dacryocytes	9,3 %		1	Drepanocytes	0,7 %
	18	Acanthocytes	13 %		7	Dacryocytes	5,0 %
>>>	93	Echinocytes	66 %		1	Echinocytes	0,7 %
>	9	Target cells	6,4 %		32	Target cells	23 %
>	55	Schistocytes (and other fragmentocytes)	39 %		1	Schistocytes (and other fragmentocytes)	0,7 %

Sample A			Sample B		
RBC - morphology					
15	Polychromasia	11 %	1	Polychromasia	0,7 %
3	Hypochromia	2,1 %	1	Hypochromia	0,7 %
8	Basophilic stippling	5,7 %	1	Basophilic stippling	0,7 %
5	Howell-Jolly bodies	3,6 %	2	Howell-Jolly bodies	1,4 %
11	Rouleaux formation	7,9 %	2	Rouleaux formation	1,4 %
			1	Pappenheimer bodies	0,7 %
			2	RBC agglutination	1,4 %
Platelets - morphology					
> 60	No changes	43 %	>>> 99	No changes	71 %
> 20	Large platelets	14 %	8	Large platelets	5,7 %
33	Small platelets	24 %	> 34	Small platelets	24 %
>>> 57	Platelets hypogranulation	41 %	2	Platelet aggregates	1,4 %
			1	Platelet satellitism	0,7 %
			1	Platelets hypogranulation	0,7 %
Clinical recommendation - smear					
>>> 140	Blood smear is pathological	100 %	2	Blood smear is pathological	1,4 %
			>>> 138	Blood smear within physiological limits or with reactive changes	99 %
Clinical recommendation - examination					
>>> 140	An examination by the specialist/haematologist is recommended	100 %	3	An examination by the specialist/haematologist is recommended	2,1 %
			>>> 137	An examination by the specialist/haematologist is not necessary	98 %
Diagnosis - anaemia					
2	Exact determination impossible	1,4 %			
1	Hypochromia	0,7 %			
4	Macrocytosis	2,9 %			
Diagnosis - acute leukaemia					
> 59	Without closer determination	42 %			
6	ALL (acute lymphoblastic leukemia)	4,3 %			
>>> 83	AML (acute myeloid leukemia)	59 %			
Diagnosis - mature lymphocytic cells neoplasms					
1	CLL (chronic lymphocytic leukaemia)	0,7 %	1	Exact determination impossible	0,7 %
Diagnosis - platelets disorders					
13	Thrombocytopenia	9,3 %			
Diagnosis - other					
			5	Viral infection incl. inf. mononucleosis	3,6 %
			63	Other reactive changes	45 %
			16	Other disease	11 %
Smear quality					
137	Acceptable	98 %	136	Acceptable	97 %
2	Not acceptable (give a reason)	1,4 %	2	Not acceptable (give a reason)	1,4 %
Staining					
136	Acceptable	97 %	136	Acceptable	97 %
3	Not acceptable (give a reason)	2,1 %	1	Not acceptable (give a reason)	0,7 %
Evaluation of the results - scoring system					
Sample A			Sample B		
Maximal achievable score: 99			Maximal achievable score: 75		
Successful participants (success 60 % and more): 129 (it is 92 %)			Successful participants (success 60 % and more): 135 (it is 96 %)		
Minimal success in this round: 32,3 %			Minimal success in this round: 40,0 %		
Maximal success in this round: 100,0 %			Maximal success in this round: 100,0 %		
Number of participants: 140					
in both samples: 127 (it is 91 %)					
Number of participants that succeeded:					
in one sample: 10 (it is 7 %)					
in no sample: 3 (it is 2 %)					