

SUMMARY STATISTICS

EQA round: DIF2/22 - Peripheral Blood Morphology Evaluation

Deadline (EQA round closed): 27.05.2022

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	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Promyelocytes	0,917	0,867 - 0,950	0,882	0	0,000 - 0,018	0,000
Neutrophil myelocytes	0	0,000 - 0,018	0,011	0	0,000 - 0,018	0,000
Neutrophil metamyelocytes	0	0,000 - 0,018	0,004	0	0,000 - 0,018	0,000
Neutrophil bars	0,005	0,000 - 0,028	0,006	0	0,000 - 0,018	0,000
Segmented neutrophil granulocytes	0,030	0,011 - 0,064	0,035	0,042	0,017 - 0,077	0,046
Eosinophils - immature forms	0	0,000 - 0,018	0,000	0,036	0,014 - 0,071	0,039
Eosinophil segmented granulocytes	0	0,000 - 0,018	0,000	0,839	0,782 - 0,888	0,822
Basophilic granulocytes	0	0,000 - 0,018	0,001	0,022	0,005 - 0,050	0,012
Monocytes	0,005	0,000 - 0,018	0,007	0,007	0,000 - 0,028	0,013
Lymphocytes	0,040	0,017 - 0,077	0,047	0,059	0,030 - 0,102	0,063
Plasma cells	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Erythroblasts (number)	1,000	0,000 - 4,000	1,195	0	0,000 - 2,000	0,000

Sample A

Sample B

WBC - morphology

1	No changes	0,6 %	5	No changes	3,2 %
5	Hypergranulation/toxic granulation	3,2 %	5	Hypergranulation/toxic granulation	3,2 %
19	Agranulation	12 %	19	Agranulation	12 %
>>> 151	Auer rods	97 %	12	Hypersegmented granulocytes	7,7 %
4	Atypical/reactive/pathological monocytes/promono.	2,6 %	6	Hyposegmentation / asegmentation / pelgeroid	3,9 %
>>> 100	Denuded nuclei/cells, nuclear shadows / smudge cells	65 %	3	Atypical/reactive/pathological monocytes/promono.	1,9 %
3	Cytoplasmatic fragments	1,9 %	> 24	Denuded nuclei/cells, nuclear shadows / smudge cells	15 %
3	Vacuolisation	1,9 %	1	Parasite inclusions	0,6 %
2	LGL/big lymphocytes	1,3 %	4	Cytoplasmatic fragments	2,6 %
2	Lymphocytes - reactive forms	1,3 %	>>> 138	Vacuolisation	89 %
3	Lymphocytes - atypical forms (except "hairy")	1,9 %	4	LGL/big lymphocytes	2,6 %
3	Nucleus fragments of neutrophiles	1,9 %	25	Lymphocytes - reactive forms	16 %
			4	Lymphocytes - atypical forms (except "hairy")	2,6 %

WBC - relative changes of count

>>> 147	Neutropenia	95 %	1	Normal count	0,6 %
1	Neutrophilia	0,6 %	>>> 147	Neutropenia	95 %
1	Lymphocytosis	0,6 %	>>> 148	Lymphocytopenia	95 %
>>> 150	Lymphocytopenia	97 %	>>> 153	Eosinophilia	99 %
3	Monocytosis	1,9 %	> 42	Basophilia	27 %
>>> 128	Monocytopenia	83 %	> 74	Monocytopenia	48 %
> 75	Left shift	48 %	5	Left shift	3,2 %

RBC - morphology

8	No changes	5,2 %	>>> 110	No changes	71 %
6	Normocytosis	3,9 %	30	Normocytosis	19 %
>>> 134	Microcytosis	86 %	3	Anisocytosis	1,9 %
10	Anisocytosis	6,5 %	3	Eliptocytes, ovalocytes	1,9 %
1	Poikilocytosis	0,6 %	9	Spherocytes	5,8 %
> 43	Eliptocytes, ovalocytes	28 %	27	Stomatocytes	17 %
34	Spherocytes	22 %	6	Dacryocytes	3,9 %
8	Stomatocytes	5,2 %	1	Target cells	0,6 %
1	Drepanocytes	0,6 %	1	Polychromasia	0,6 %
9	Dacryocytes	5,8 %	3	Hypochromia	1,9 %
> 13	Schistocytes (and other fragmentocytes)	8,4 %	1	Basophilic stippling	0,6 %
>>> 53	Polychromasia	34 %	3	Rouleaux formation	1,9 %

Sample A

Sample B

RBC - morphology

2	Hypochromia	1,3 %	1	Pappenheimer bodies	0,6 %
9	Basophilic stippling	5,8 %			
5	Howell-Jolly bodies	3,2 %			
5	Rouleaux formation	3,2 %			
1	Pappenheimer bodies	0,6 %			

Platelets - morphology

> 114	No changes	74 %	>>> 128	No changes	83 %
> 22	Large platelets	14 %	21	Large platelets	14 %
> 3	Small platelets	1,9 %	5	Small platelets	3,2 %
> 18	Platelets hypogranulation	12 %	5	Platelet aggregates	3,2 %
			2	Platelets hypogranulation	1,3 %

Clinical recommendation - smear

>>> 154	Blood smear is pathological	99 %	>>> 154	Blood smear is pathological	99 %
			1	Blood smear within physiological limits or with reactive changes	0,6 %

Clinical recommendation - examination

>>> 153	An examination by the specialist/haematologist is recommended	99 %	>>> 152	An examination by the specialist/haematologist is recommended	98 %
1	An examination by the specialist/haematologist is not necessary	0,6 %	3	An examination by the specialist/haematologist is not necessary	1,9 %

Diagnosis - anaemia

1	Exact determination impossible	0,6 %	1	Exact determination impossible	0,6 %
2	Microcytosis	1,3 %			

Diagnosis - acute leukaemia

20	Without closer determination	13 %	1	Without closer determination	0,6 %
1	ALL (acute lymphoblastic leukemia)	0,6 %	1	AML (acute myeloid leukemia)	0,6 %
>>> 141	AML (acute myeloid leukemia)	91 %			

Diagnosis - chronic myeloproliferative disease

>>> 86	Exact determination impossible	55 %
4	CML (chronic myelogenous leukaemia)	2,6 %

Diagnosis - platelets disorders

30	Thrombocytopenia	19 %
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Diagnosis - other

1	Viral infection incl. inf. mononucleosis	0,6 %
24	Parasitic infection	15 %
8	Other reactive changes	5,2 %
22	Allergy	14 %
> 60	Other disease	39 %

Smear quality

154	Acceptable	99 %	149	Acceptable	96 %
			5	Not acceptable (give a reason)	3,2 %

Staining

153	Acceptable	99 %	151	Acceptable	97 %
			2	Not acceptable (give a reason)	1,3 %

Evaluation of the results - scoring system

DIF2/22

Sample A

Maximal achievable score: 93

Successful participants (success 60 % and more): 150 (it is 97 %)
 Minimal success in this round: 53,8 %
 Maximal success in this round: 100,0 %

Sample B

Maximal achievable score: 87

Successful participants (success 60 % and more): 152 (it is 98 %)
 Minimal success in this round: 35,6 %
 Maximal success in this round: 100,0 %

Number of participants: 155

in both samples: 147 (it is 95 %)

Number of the participants that succeeded: in one sample: 8 (it is 5 %)

in no sample: 0 (it is 0 %)