



# Proficiency Testing Participant Summary and Evaluation Resource

Proficiency testing/external quality assessment (PT/EQA) is a tool the laboratory can use to verify the accuracy and reliability of its testing and can also be used to validate the entire testing process including the competency of your testing personnel.<sup>1</sup> Designed by our scientific resource committees to closely mimic patient testing, CAP PT/EQA provides actionable insights to drive quality improvements and education to help ensure staff competency. Our programs are accredited to the ISO 17043 standard.

On the proficiency testing (PT) program(s) completion date, your laboratory's participant summary and evaluation report will be mailed, made available online, or within your laboratory's Performance Analytics Dashboard. This resource provides an overview of which information is included in these documents.

## Participant Summary

### Evaluation Criteria

**Note: Information listed in this section provides the criteria used to determine the acceptability of results.**

#### Quantitative

- 1 Provides a list of all graded analytes included in this mailing.
- 2 Provides the target value that the evaluation criteria will be applied to. Peer group is the mean value for all users of the same instrument/method.
- 3 Provides the criteria used to determine acceptability of results based on scientific assessment of acceptable limits.

#### Qualitative

- 4 Qualitative data is typically graded by participant or referee consensus.

Evaluation Criteria, cont'd.  
Analytes regulated for proficiency testing appear in bold type.

1 Analyte	2 Target Value	3 Evaluation Criteria
<b>Basophils*</b>	Peer Group	± 3 SD or or 1.0 ♦
<b>Eosinophils*</b>	Peer Group	± 3 SD or or 1.0 ♦
<b>Hematocrit</b>	Peer Group	± 6%
Microhematocrit (waived)	Peer Group	± 6% or 2 SD ♦
<b>Hemoglobin</b>	Peer Group	± 7%
IG	Not Graded	Educational
Immature Platelet Fraction	Not Graded	Educational
<b>Lymphocytes*</b>	Peer Group	± 3 SD or or 1.0 ♦
MCV	Peer Group	± 3 SD
MCH	Peer Group	± 3 SD
MCHC	Peer Group	± 3 SD
<b>Monocytes*</b>	Peer Group	± 3 SD or or 1.0 ♦
MPV	Peer Group	± 3 SD
<b>Neutrophils/Granulocytes*</b>	Peer Group	± 3 SD or or 1.0 ♦
nRBC	Not Graded	Educational
<b>Platelet Count</b>	Peer Group	± 25%
RDW	Peer Group	± 3 SD
<b>Red Blood Cell Count</b>	Peer Group	± 6%
<b>White Blood Cell Count</b>	Peer Group	± 15%

Results for IG, Immature Platelet Fraction, and nRBC are not formally evaluated; however, statistics appear in the Participant Summary for your information.

♦ (whichever is greater)

4 Qualitative	Evaluation Criteria
<b>Blood Cell Identification*</b>	80% referee or participant consensus

\*Blood Cell Identification results are included in the CMS performance summary. In the event that Blood Cell Identification is not performed, results from the flow through differential will be reported.

1. Proficiency Testing and PT Referral Do's and Don'ts; Centers for Medicare and Medicaid Services; September 2017.

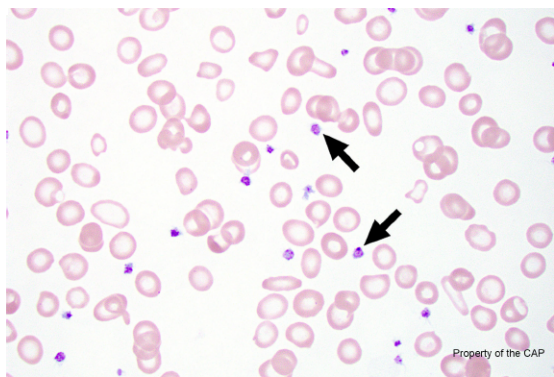


- 5 Analyte presented and unit of measure.
- 6 Peer groups that reported 10 or more results. In this example, the peer group is the instrument.
- 7 Specimen number for the sample statistics listed below.
- 8 Statistics for each peer group including the number of laboratories, mean, standard deviation, and coefficient of variation. Some programs may also include columns for Min and Max, which indicate the lowest and highest values reported.

5	White Blood Cell Count x 10E9/L or x 10E3/ $\mu$ L	7 FH9-01				FH9-02				FH9-03			
		N	MEAN	SD	CV%	N	MEAN	SD	CV%	N	MEAN	SD	CV%
	Abbott Alinity hq	35	2.80	0.11	3.8	34	7.77	0.21	2.7	34	6.44	0.15	2.4
	Sysmex XE-2100,2100 D/L	28	2.94	0.10	3.4	28	7.71	0.18	2.4	28	6.61	0.21	3.1
	Sysmex XE-2100 D/L (Bld Ctr)	67	2.92	0.12	4.2	67	7.66	0.23	3.0	67	6.50	0.21	3.3
	Sysmex XE-5000	56	2.91	0.10	3.3	56	7.67	0.22	2.9	55	6.52	0.20	3.1
	Sysmex XN-L Series	637	2.81	0.08	2.9	640	7.75	0.15	1.9	631	6.50	0.13	2.1
	Sysmex XN-Series	2965	2.78	0.07	2.6	2966	7.59	0.14	1.9	2962	6.30	0.12	1.9
	Sysmex XN-Series (RL App)	87	2.77	0.07	2.5	89	7.54	0.14	1.8	89	6.28	0.12	1.9
	Sysmex XS (Except RL App)	422	2.89	0.08	2.9	424	7.92	0.17	2.1	422	6.65	0.15	2.2
	Sysmex XS-1000iC (RL App)	65	2.89	0.08	2.7	64	7.95	0.17	2.1	65	6.68	0.16	2.4
	Sysmex XT-1800i/2000i	66	2.91	0.10	3.5	65	7.68	0.17	2.2	66	6.72	0.21	3.2
	Sysmex XT-4000i	51	2.90	0.10	3.4	49	7.68	0.20	2.7	50	6.72	0.17	2.6

**Qualitative Data tables**

- 9 A summary of the responses reported are provided. The number of referees and participants reporting that response are indicated. Often, frequently reported unacceptable responses are included to provide data for common mis-identifications.
- 10 Many qualitative programs include an educational discussion crafted by an expert scientific committee.



9	Identification	Referees		Participants		Evaluation
		N	%	N	%	
	Platelet, normal	180	99.5	5335	99.7	Good
	Blast cell	1	0.5	2	0.0	Unacceptable

The arrowed cells were correctly identified as normal platelets by 99.5% of referees and 99.7% of participants. Platelets, also known as thrombocytes, are small, blue-gray fragments of megakaryocytic cytoplasm. Most measure 1.5 to 3  $\mu$ m in diameter. A few small platelets, less than 1.5  $\mu$ m in diameter, and a few large platelets, 4 to 7  $\mu$ m in diameter, may also be seen in normal blood films. Fine, purple-red granules are dispersed throughout the cytoplasm or are sometimes aggregated at the center. These granules are platelet alpha granules. Platelet delta granules (or dense granules) are not visible on light microscopy. Platelets may be variable in shape, but most normal platelets are round or very slightly elliptical. Some have short cytoplasmic projections or ruffled margins. They are typically single but may form aggregates, particularly in fresh (fingerstick) preparations.



## Evaluation Report

The evaluation provides a summary of results reported by each individual laboratory, the target results and a summary of performance.

### Quantitative Evaluation

EVALUATION ORIGINAL		FH9-A 2022 Hematology Auto Differentials, FH9							
1 Test Unit of Measure Peer Group	2 Specimen	3 Evaluation and Comparative Method Statistics					6 Your Grade		7 Plot of the Relative Distance of Your Results from Target as Percentages of allowed Deviation Survey -100-----Mean-----+100
		4 Your Result	4 Mean	S.D.	No. of Labs	S.D.I	5 Limits of Acceptability Lower Upper	6 Your Grade	
White Blood Cell Count x 10E9/L or x 10E3/uL SYSMEX XN-SERIES	FH9-01	2.8	2.78	0.07	2965	+0.3	2.3	3.2	FH9-A 2022 FH9-C 2021 FH9-B 2021 
	FH9-02	7.6	7.59	0.14	2966	0.0	6.4	8.8	
	FH9-03	6.4	6.30	0.12	2962	+0.8	5.3	7.3	
	FH9-04	17.1	16.92	0.25	2959	+0.7	14.3	19.5	
	FH9-05	2.9	2.93	0.08	2972	-0.4	2.4	3.4	

- 1 Indicates the analyte, unit of measure, and method provided on the result form for your kit.
- 2 Indicates the specimen number.
- 3 Indicates the result reported for the specimen on your result form.
- 4 The mean, standard deviation, and number of laboratories for your peer group.
- 5 The calculated limits of acceptability that were applied to your result.
- 6 The grade assigned to your result.
- 7 Graphical representation of the results reported for this analyte for the past 3 mailings. Refer to our [PT Troubleshooting Guide](#) for assistance interpreting these graphs.

### Qualitative Evaluation

8 Test	9 Method	10 Specimen	10 Your Result	11 Good Response	Acceptable Response	12 Your Grade
8 Blood Cell ID		BCP-01	NEUTROPHIL, SEG/BAND	NEUTROPHIL, SEG/BAND		Good
		BCP-02	MICROCYTE w/INCR PALLOR	MICROCYTE w/INCR PALLO		Good
		BCP-03	PLATELET, NORMAL	PLATELET, NORMAL		Good
		BCP-04	PLATELET, GIANT	PLATELET, GIANT		Good
		BCP-05	OVALOCYTE	OVALOCYTE		Good

- 8 Indicates the analyte.
- 9 Indicates the specimen number for the results.
- 10 Indicates the result reported for the specimen on your result form.
- 11 Indicates the consensus response for this specimen.
- 12 Indicates the grade assigned to your response.

Additional information regarding the information provided in the participant summary and the evaluation report can be found in the [CAP Proficiency Testing manual](#) located at cap.org.