MAYO CLINIC LABORATORIES

Test Definition: SPSM

Morphology Evaluation (Special Smear), Blood

Overview

Useful For

Detecting disease states or syndromes of the white blood cells, red blood cells, or platelet cell lines of a patient's peripheral blood

Profile Information

Test Id	Reporting Name	Available Separately	Always Performed
DIFFS	Morphology Eval (Special Smear)	No	Yes
SPSM_	Special Smear	No	Yes

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
DIFFR	Morphology Eval (special Smear)	No	No
PINTP	Peripheral Smear Interpretation	No	No
CBCN	CBC without Differential	Yes	No
LCMSB	Leukemia/Lymphoma Phenotype	Yes	No

Additional Tests

Test Id	Reporting Name	Available Separately	Always Performed
PBPC	Peripheral Blood	No, (Bill Only)	Yes

Testing Algorithm

If clinically abnormal results are identified by microscopic examination, a peripheral blood smear review is performed by a Hematopathologist at an additional charge.

If patient has not had a complete blood cell count in the last 3 days, one will be performed at an additional charge.

See Acute Tick-Borne Disease Testing Algorithm

Special Instructions

- Acute Tickborne Disease Testing Algorithm

Method Name

Manual-Microscopic Examination of Cells

NY State Available

Yes

Specimen

Specimen Type

Whole blood

Necessary Information

Clinician should provide indication for performing test.

Specimen Required

Collection Container/Tube: 2 slides

Specimen Volume: 2 unstained, well prepared peripheral blood smears

Collection Instructions: Smears made from blood obtained by either a lavender top (EDTA) tube or finger stick specimen

Specimen Minimum Volume

See Specimen Required

Reject Due To

Gross hemolysis	Reject
Clotted blood	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Whole blood	Ambient (preferred)		CARTRIDGE
	Refrigerated		CARTRIDGE

Clinical & Interpretive

Clinical Information

Under normal conditions, the morphology and proportion of each blood cell type is fairly consistent in corresponding age groups. The morphology and proportion of each blood cell type may change in various hematologic diseases. Differential leukocyte count and special smear evaluation is helpful in revealing the changes in morphology or proportion of each cell type in the peripheral blood.

Reference Values

1-3 years
Neutrophils/bands: 22-51%
Lymphocytes: 37-73%
Monocytes: 2-11%
Eosinophils: 1-4%
Basophils: 0-2%
Metamyelocytes: 0%
Myelocytes: 0%

4-7 years
Neutrophils/bands: 30-65%
Lymphocytes: 29-65%
Monocytes: 2-11%
Eosinophils: 1-4%
Basophils: 0-2%
Metamyelocytes: 0%
Myelocytes: 0%

8-13 years
Neutrophils/bands: 35-70%
Lymphocytes: 23-53%
Monocytes: 2-11%
Eosinophils: 1-4%
Basophils: 0-2%
Metamyelocytes: 0%
Myelocytes: 0%

Adults
Neutrophils/bands: 50-75%
Lymphocytes: 18-42%
Monocytes: 2-11%
Eosinophils: 1-3%
Basophils: 0-2%
Metamyelocytes: <1%
Myelocytes: <0.5%

An interpretive report will be provided.

Interpretation

The laboratory will provide an interpretive report of percentage of white cells and, if appropriate, evaluation of white cells, red cells, and platelets.

Cautions

A poorly prepared peripheral smear may result in less than optimal interpretation.

Clinical Reference

1. Kjeldsberg CR, eds. Practical Diagnosis of Hematologic Disorders. 5th ed. American Society of Clinical Pathologists; 2010

2. Pozdnyakova O, Connell NT, Battinelli EM, Connors JM, Fell G, Kim AS. Clinical significance of CBC and WBC morphology in the diagnosis and clinical course of COVID-19 infection. Am J Clin Pathol.. 2021 Feb 11;155(3):364-375. doi: 10.1093/ajcp/aqaa231

Performance

Method Description
Microscopic examination of a Wright-Giemsa stained smear.(Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Sunday through Saturday

Report Available
1 day

Specimen Retention Time
Slides: - 1 year

Performing Laboratory Location
Rochester

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification
This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
85007
85060-(if appropriate)
85027-(if appropriate)
88184-(If appropriate)

88185-(If appropriate)
88187-(if appropriate)
88188-(if appropriate)
88189-(if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SPSM	Morphology Eval (special smear)	14869-2

Result ID	Test Result Name	Result LOINC® Value
LYMPH	Lymphocytes	26478-8
MONOC	Monocytes	26485-3
EOS	Eosinophils	714-6
BASO	Basophils	In Process
META	Metamyelocytes	In Process
MYEL	Myelocytes	In Process
PROMY	Promyelocytes	In Process
UBLS	Blasts	In Process
PLSM	Plasma Cells	In Process
M_KR	Megakaryocytes	19252-6
NUCL	Nucleated RBC	19048-8
FRAGC	Fragile Cells	In Process
BL_PR	Blasts and Promonocytes	In Process
MANC	Manual Absolute Neutrophil Count	753-4
INT01	Interpretation	59466-3
REV96	Reviewed by:	18771-6
SEGBA	Neutrophilic Segs and Bands	23761-0