

Overview

Useful For

A marker of immaturity in the setting of acute myeloid leukemia or B-cell lymphoblastic leukemia

Diagnosis of gastrointestinal stromal tumors, solitary fibrous tumors, and angiosarcomas

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
IHTOI	IHC Initial, Tech Only	No	No
IHTOA	IHC Additional, Tech Only	No	No

Testing Algorithm

For the initial technical component only immunohistochemical (IHC) stain performed, the appropriate bill-only test ID will be reflexed and charged (IHTOI). For each additional technical component only IHC stain performed, an additional bill-only test ID will be reflexed and charged (IHTOA).

Method Name

Immunohistochemistry (IHC)

NY State Available

Yes

Specimen

Specimen Type

TECHONLY

Ordering Guidance

This test includes only technical performance of the stain (no pathologist interpretation is performed). If diagnostic consultation by a pathologist is required order PATHC / Pathology Consultation.

Shipping Instructions

Attach the green "Attention Pathology" address label (T498) and the pink Immunostain Technical Only label included in the kit to the outside of the transport container.

Specimen Required

Specimen Type: Tissue

Supplies: Immunostain Technical Only Envelope (T693)

**Container/Tube:** Immunostain Technical Only Envelope

**Preferred:**

- Formalin-fixed, paraffin-embedded tissue block
- OR
- 2 Unstained, positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick

**Acceptable:** None

**Digital Image Access**

1. Information on accessing digital images of immunohistochemical (IHC) stains and the manual requisition form can be accessed through this website: <https://news.mayocliniclabs.com/ihc-stains/>
2. Clients ordering stains using a manual requisition form will not have access to digital images.
3. Clients wishing to access digital images must place the order for IHC stains electronically. Information regarding digital imaging can be accessed through this website: <https://news.mayocliniclabs.com/ihc-stains/#FAQ>

**Forms**

If not ordering electronically, complete, print, and send a [Immunohistochemical \(IHC\)/In Situ Hybridization \(ISH\) Stains Request](#) (T763) with the specimen.

**Reject Due To**

Wet/frozen tissue Cytology smears Nonformalin fixed tissue Nonparaffin embedded tissue Noncharged slides ProbeOn slides Snowcoat slides	Reject
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**Specimen Stability Information**

Specimen Type	Temperature	Time	Special Container
TECHONLY	Ambient (preferred)		
	Refrigerated		

**Clinical & Interpretive**

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**Clinical Information**

CD34 (cluster of differentiation 34) is 115 kDa membrane-associated antigen found on human hematopoietic progenitor cells and vascular endothelial cells. In normal tonsil sections, antibodies to CD34 strongly stain vascular endothelial cells.

CD34 is used as a marker of immaturity in the setting of acute myeloid leukemia or B-cell lymphoblastic leukemia. It is also useful in the diagnosis of gastrointestinal stromal tumors, solitary fibrous tumors, and angiosarcomas.

**Interpretation**

This test does not include pathologist interpretation, only technical performance of the stain. If interpretation is required, order PATHC / Pathology Consultation for a full diagnostic evaluation or second opinion of the case.

The positive and negative controls are verified as showing appropriate immunoreactivity.

Interpretation of this test should be performed in the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

**Cautions**

Age of a cut paraffin section can affect immunoreactivity. Stability thresholds vary widely among published literature and are antigen dependent. Best practice is for paraffin sections to be cut within 6 weeks.

The charge of glass slides can be affected by environmental factors and subsequently may alter slide staining. Sending unsuitable glass slides can result in inconsistent staining due to poor slide surface chemistry.

Best practices for storage of positively charged slides:

- Minimize time slides are stored after being unpackaged
- Limit exposure to high humidity and heat
- Minimize exposure to plastics

**Clinical Reference**

1. Lopez-Nunez O, Surrey LF, Alaggio R, Fritchie KJ, John I. Novel PPP1CB-ALK fusion in spindle cell tumor defined by S100 and CD34 coexpression and distinctive stromal and perivascular hyalinization. *Genes Chromosomes Cancer*. 2020;59(8):495-499. doi:10.1002/gcc.22844
2. Matoso A, Epstein JI. Epithelioid angiosarcoma of the bladder: A series of 9 cases. *Am J Surg Pathol*. 2015;39(10):1377-1382. doi:10.1097/PAS.0000000000000444
3. Stanek J, Abdaljaleel M. CD34 immunostain increases the sensitivity of placental diagnosis of fetal vascular malperfusion in stillbirth. *Placenta*. 2019;77:30-38. doi:10.1016/j.placenta.2019.02.001
4. Sardina LA, Piliang M, Bergfeld WF. Diagnostic value of CD34 and calretinin immunostaining in the diagnosis of proliferating tricholemmal tumor and trichoblastoma. *Int J Dermatol*. 2020;59(1):99-102. doi:10.1111/ijd.14461
5. Magaki S, Hojat SA, Wei B, So A, Yong WH. An introduction to the performance of immunohistochemistry. *Methods Mol Biol*. 2019;1897:289-298. doi:10.1007/978-1-4939-8935-5\_25

**Performance**

Method Description

Immunohistochemistry on sections of paraffin-embedded tissue.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

1 to 3 days

Specimen Retention Time

Until staining is complete.

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

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

88342-TC, primary  
88341-TC, if additional IHC

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
CD34I	CD34 IHC, Tech Only	Order only;no result

Result ID	Test Result Name	Result LOINC® Value
70701	CD34 IHC, Tech Only	Bill only; no result