MAYO CLINIC LABORATORIES

Test Definition: TRBC1

T-Cell Receptor Constant Beta Chain (TRBC1)
Immunostain, Technical Component Only

Overview

Useful For
Determination of T-cell clonality in T-cell neoplasms

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
Submit:

-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

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/pathology/digital-imaging/
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/pathology/digital-imaging/#section3

Reject Due To

Wet/frozen tissue Cytology smears Nonformalin fixed tissue Nonparaffin embedded tissue Noncharged slides ProbeOn slides Snowcoat slides	Reject

Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

Each alpha beta T cell expresses a T-cell receptor (TCR) containing one of the two TCR beta chain constant regions (TRBC), TRBC1 or TRBC2. Reactive T-cell populations show a polytypic mixture of TRBC1 and TRBC2 expression. T-cell neoplasms show restricted expression with T-cells expressing either TRBC1 or TRBC2 in a mutually exclusive pattern, analogous to light chain expression in B-cells.

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. Zhou T, Sardana R, Eren OC, et al. The diagnostic utility of TRBC1 immunohistochemistry in mature T-cell lymphomas. Mod Pathol. Published online January 28,2025.. doi:10.1016/j.modpat.2025.100725
2. Horna P, Weybright MJ, Ferrari M, et al. Dual T-cell constant beta chain (TRBC)1 and TRBC2 staining for the identification of T-cell neoplasms by flow cytometry. Blood Cancer J. 2024;14(1):34
3. Soilleux EJ, Rodgers DT, Situ JJ, et al. Demonstration of T-cell monotypia using anti-TCRbeta1/2 (*TRBC1*/2) immunostaining as a rapid and cost-effective alternative to PCR-based clonality studies for the diagnosis of T-cell lymphoma. Diagnostics (Basel). 2024;14(22):2479
4. Nocco SE, Ewalt MD, Moy AP, et al. TRBC1 immunohistochemistry distinguishes cutaneous T-cell lymphoma from inflammatory dermatitis: A retrospective analysis of 39 cases. J Am Acad Dermatol. 2024;90(4):839-841

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 completed

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
TRBC1	TRBC1 IHC, Tech Only	No LOINC Needed

Result ID	Test Result Name	Result LOINC® Value
622853	TRBC1 IHC, Tech Only	No LOINC Needed