

## Overview

### Useful For

Aids in the identification of hematolymphoid neoplasms and melanomas

### 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

### 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 pathology address label and the pink Immunostain Technical Only label included in the kit to the outside of the transport container.

### Specimen Required

**Supplies:** Immunostain Technical Only Envelope (T693)

**Specimen Type:** Tissue

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

**Preferred:** 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick

**Acceptable:** Formalin-fixed, paraffin-embedded (FFPE) tissue block

### Digital Image Access

[Mayo Clinic is preparing to migrate to a new slide scanning solution and will need to temporarily suspend digital imaging for tech-only IHC/ISH orders received after June 17. We will send a follow-up notification by September 1st indicating when digital imaging resumes. We appreciate your patience as we improve our digital imaging solution.](#)

### 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	Reject
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### Specimen Stability Information

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

## Clinical & Interpretive

### Clinical Information

MUM-1 (multiple myeloma oncogene-1), expressed by the *IRF4* gene, is seen in a subset of B cells in the light zone of the germinal center (representing late stages of B cell differentiation), plasma cells, activated T cells, and a variety of hematolymphoid neoplasms derived from these cells. Among non-hematolymphoid neoplasms, MUM-1 expression has been reported in melanomas. A separate protocol optimized for B5 fixed/decalcified bone marrow specimens has been validated.

### Interpretation

This test does not include pathologist interpretation; only technical performance of the stain is performed. If an 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 and documentation is retained at Mayo Clinic Rochester. If a control tissue is not included on the slide, a scanned image of the relevant quality control tissue is available upon request. Contact 855-516-8404.

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

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**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.

**Clinical Reference**

1. Rada G, Nagla S, Ali G: MUM1 and Ki67 Expression Best Predictors of Treatment Response in Diffuse Large B Cell Lymphoma Not Otherwise Specified. *Amer J Clin Pathol* 2015 Oct;144(2,1):A147
2. Cozzolino I, Varone V, Picardi M, et al: CD10, BCL6, and MUM1 expression in diffuse large B-cell lymphoma on FNA samples. *Cancer Cytopathol* 2016;124:135-143. doi:[10.1002/cncy.21626](https://doi.org/10.1002/cncy.21626)
3. Heo MH, Park HY, Ko YH, et al: IRF4/MUM1 expression is associated with poor survival outcomes in patients with peripheral T-cell lymphoma. *J Cancer* 2017;8(6):1018-1024. doi:10.7150/jca.17358

**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**

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 Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

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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
MUM1	MUM-1/IRF4 IHC, Tech Only	Order only;no result

Result ID	Test Result Name	Result LOINC® Value
70826	MUM-1/IRF4 IHC, Tech Only	Bill only; no result