

**Overview****Useful For**

Identification of abnormal accumulation of alpha-1-antitrypsin

**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

**Advisory Information**

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

**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**

1. Information on accessing digital images of immunohistochemical (IHC) stains and the manual requisition form can

be accessed through this website: [www.mayocliniclabs.com/test-info/ihc/index.html](http://www.mayocliniclabs.com/test-info/ihc/index.html)

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: [www.mayocliniclabs.com/test-info/ihc/faq.html](http://www.mayocliniclabs.com/test-info/ihc/faq.html)

**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**

|              |                                                                                                                         |
|--------------|-------------------------------------------------------------------------------------------------------------------------|
| Tissue/Other | Wet/frozen tissue Cytology smears Nonformalin fixed tissue Nonparaffin embedded tissue Noncharged slides ProbeOn slides |
|--------------|-------------------------------------------------------------------------------------------------------------------------|

**Specimen Stability Information**

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

**Clinical and Interpretive**

**Clinical Information**

Alpha-1-antitrypsin (AAT) is a plasma protein synthesized in the liver and is present in serum and tissue fluids where it acts as an inhibitor of proteases, especially elastase. AAT deficiency is associated with development of emphysema and liver disease. In liver disease, abnormal accumulation of AAT is seen as cytoplasmic globules in hepatocytes.

**Interpretation**

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

**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 fresh.

**Clinical Reference**

[1. Callea F, Fevery J, Massi G, et al: Alpha-1-antitrypsin \(AAT\) and its stimulation in the liver of PiMZ phenotype individuals. A "recruitment-secretory block" \("R-SB"\) phenomenon. Liver 1984;4\(5\):325-337](#)

2. Lam M, Torbenson M, Yeh MM, et al: HFE mutations in alpha-1-antitrypsin deficiency: an examination of cirrhotic

explants. Mod Pathol 2010;23:637-643

3. Theaker JM, Fleming KA: Alpha-1-antitrypsin and the liver: a routine immunohistological screen. J Clin Pathol 1986;39(1):58-62

## Performance

### Method Description

Immunohistochemistry on sections of paraffin-embedded tissue.(Cartun RW, Taylor CR, Dabbs DJ: Techniques of immunohistochemistry: Principles, pitfalls, and standardization. In: Dabbs DJ, ed. Diagnostic Immunohistochemistry. 5th ed. Elsevier; 2019:1-46)

### PDF Report

No

### Day(s) and Time(s) Test Performed

Monday through Friday

### Analytic Time

1 day

### Maximum Laboratory Time

3 days

### Specimen Retention Time

Until staining is complete.

### Performing Laboratory Location

Rochester

## Fees and 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

This test has been cleared, approved or is exempt by the U.S. 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

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| Test ID | Test Order Name                    | Order LOINC Value    |
|---------|------------------------------------|----------------------|
| AATRP   | Alpha 1-Antitrypsin IHC, Tech Only | Order only;no result |

| Result ID | Test Result Name                   | Result LOINC Value   |
|-----------|------------------------------------|----------------------|
| 70664     | Alpha 1-Antitripsin IHC, Tech Only | Bill only; no result |