

Tropomyosin Receptor Kinase (TRK) Immunostain, Technical Component Only

### Overview

### **Useful For**

Helpful in the screening for neurotrophic tyrosine receptor kinase (NTRK) rearranged tumors

### **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

Supplies: Immunostain Technical Only Envelope (T693)

**Specimen Type:** Tissue

Container/Tube: Immunostains Technical Only Envelope

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



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Acceptable: Formalin-fixed, paraffin-embedded 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: <a href="https://news.mayocliniclabs.com/pathology/digital-imaging/">https://news.mayocliniclabs.com/pathology/digital-imaging/</a>
- 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: <a href="https://news.mayocliniclabs.com/pathology/digital-imaging/#section3">https://news.mayocliniclabs.com/pathology/digital-imaging/#section3</a>

### **Forms**

If not ordering electronically, complete, print, and send a <u>Immunohistochemical (IHC)/In Situ Hybridization (ISH) Stains</u>
<u>Request</u> (T763) with the specimen.

# Reject Due To

Wet/frozen	Reject
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 & Interpretive

## **Clinical Information**

Neurotrophic tyrosine receptor kinase (*NTRK*) is a family of 3 proto-oncogenes including *NTRK1*, *NTRK2*, and *NTRK3*, which encode TRKA, TRKB, and TRKC proteins respectively. Tropomyosin receptor kinase (TRK) immunohistochemistry may be used as a screen for identifying *NTRK* rearrangements and may be particularly helpful in driver-negative advanced malignancies such as secretory carcinoma, congenital infantile fibrosarcoma, and lipofibromatosis-like neural tumors. Screening for *NTRK* rearranged tumors is important as patients have been shown to respond to TRK inhibitor therapy.



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# 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. If a control tissue is not included on the slide, a scanned image of the relevant quality control tissue is available upon request; call 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 within 6 weeks.

## **Clinical Reference**

- 1. Hung YP, Fletcher CDM, Hornick JL. Evaluation of pan-TRK immunohistochemistry in infantile fibrosarcoma, lipofibromatosis-like neural tumour and histological mimics. Histopathology. 2018;73(4):634-644
- 2. Davis JL, Lockwood CM, Albert CM, Tsuchiya K, Hawkins DS, Rudzinski ER. Infantile NTRK-associated mesenchymal tumors. Pediatr Dev Pathol. 2018;21(1):68-78
- 3. Drilon A, Laetsch TW, Kummar S, et al. Efficacy of Larotrectinib in TRK fusion-positive cancers in adults and children. N Engl J Med. 2018;378(8):731-739
- 4. Hechtman JF, Benayed R, Hyman DM, et al. Pan-Trk immunohistochemistry is an efficient and reliable screen for the detection of NTRK fusions. Am J Surg Pathol. 2017;41(11):1547-1551
- 5. Agaram NP, Zhang L, Sung YS, et al. Recurrent NTRK1 gene fusions define a novel subset of locally aggressive lipofibromatosis-like neural tumors. Am J Surg Pathol. 2016;40(10):1407-1416
- 6. 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



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## **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 <u>Test Prices</u> for detailed fee information.
- Clients without access to Test Prices can contact <u>Customer Service</u> 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact <u>Customer Service</u>.

### **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
TRK	TRK IHC, Tech Only	Order only;no result

Result ID	Test Result Name	Result LOINC® Value
603301	TRK IHC, Tech Only	Bill only; no result