



Test Catalog

Diagnostic. Prognostic. Predictive. Predisposition.



Pan-TRK

Alternative Name

TRKA, TRKB, TRKC

Methodology

Immunohistochemistry (IHC)

Test Description

Pan-TRK (clone EPR17341) is directed against the C-terminal region of TRK (tropomyosin receptor kinase) A, B, and C proteins, which are encoded by NTRK1, NTRK2, and NTRK3 genes respectively. Pan-TRK IHC staining is a useful screen for identification of NTRK protein overexpression caused by gene fusions. Correlation of IHC staining with molecular detection of TRK fusions is moderate; discrepant cases have been described. IHC screening is not recommended in neuroendocrine tumors, GISTs, gliomas, or adult sarcomas, as these tissues show positive staining in the absence of an NTRK translocation. Published sensitivity rates of IHC staining for detection of NTRK fusions (detected by molecular testing) are 95% and above. [Follow-up molecular testing](#) is available to confirm positivity and identify the specific NTRK gene rearranged and its fusion partner gene.

Clinical Significance

NTRK gene fusions have been reported in >20 tumor types. They occur in >90% of certain rare tumors and are considered essentially pathogenic in secretory breast cancer, congenital fibrosarcoma, congenital mesoblastic nephroma, and mammary analogue secretory carcinoma (MASC). Tumors with intermediate NTRK fusion frequencies (5-25%) include papillary thyroid cancer (PTC), GIST without KIT/PDGFR/RAS mutations, spitzoid neoplasms, and certain pediatric gliomas. NTRK fusions are detected in <5% of a wide range of common tumors including non-small cell lung cancer (NSCLC, ~1%); pancreatic adenocarcinoma; head and neck squamous cell; breast, colorectal, and renal cell carcinoma; melanoma; and adult brain tumors such as astrocytoma and glioblastoma. Testing for NTRK fusions identifies patients who may be candidates for NTRK inhibitor therapy.

Specimen Requirements

- A formalin-fixed, paraffin-embedded (FFPE) tissue block is preferred specimen type
or
- One (1) unbaked, unstained slide for H&E staining (required) and two to three (2-3) positively charged unstained slides (all cut at 4-5 microns) for each test/antibody ordered
- Block and slide identifiers should be clearly written and match exactly with the specimen ID and specimen labeling as noted on the requisition.

Storage & Transportation

Use cold pack for transport. Make sure cold pack is not in direct contact with specimen.

CPT Code(s)*

88342 x 1 or 88341 x 1

New York Approved

Yes

Level of Service

Global

Turnaround Time

48 hours

References

1. Albert CM, Davis JL, Federman H, et al. TRK fusion cancers in children: A clinical review and recommendations for screening. *J Clin Oncol*.2018;doi: 10.1200/JCO.18.00573.
2. Rudzinski ER, Lockwood CM, Stohr BA, et al. Pan-Trk IHC identifies NTRK rearrangements in pediatric mesenchymal tumors. *Am J Surg Pathol*. 2018; 42(7):927-935
3. Hechtman JF, Benayed R, Hyman DM, et al. Pan-Trk IHC is an efficient and reliable screen for the detection of NTRK fusions. *Am J Surg Pathol*.2017;41(11):1547-1551.
4. Cocco E, Scaltriti M, Drilon A. NTRK fusion-positive cancers and TRK inhibitor therapy *Nat Rev Clin Oncol*. 2018;15:731-747.
5. Chen Y, Chi P. Basket trial of TRK inhibitors demonstrates efficacy in TRK fusion-positive cancers. *J Hematol Oncol*. 2018;11:78.

*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party.

Please direct any questions regarding coding to the payor being billed.

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9490 NeoGenomics Way
Fort Myers, FL 33912
Phone: 239.768.0600/ Fax: 239.690.4237
neogenomics.com

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Rev. 070324