

# How to Test for **TRK Fusions**



## **What are TRK fusions?**

**Tropomyosin receptor kinase (TRK) fusions are genetic abnormalities** that occur when one of the NTRK genes (NTRK1, NTRK2, NTRK3) becomes abnormally connected to another, unrelated gene (e.g. ETV6, LMNA, TPM3). This abnormality results in uncontrolled TRK signaling that can lead to cancer. TRK fusions occur rarely but broadly in various adult and pediatric solid tumors, including appendiceal cancer, breast cancer, cholangiocarcinoma, colorectal cancer, GIST, infantile fibrosarcoma, lung cancer, mammary analogue secretory carcinoma of the salivary gland, melanoma, pancreatic cancer, thyroid cancer, and various sarcomas.



## **Why should you test your cancer patient's tumor sample for TRK fusion status?**

**TRK fusions can be identified through various diagnostic tests.**

If your patient tests positive for a TRK fusion, they may be appropriate for an investigational treatment that inhibits TRK. For further clinical trial program information, visit [www.loxooncologytrials.com](http://www.loxooncologytrials.com).



## How do you coordinate testing?

**Getting your patient's tumor sample tested for TRK fusion status doesn't have to be complicated.** But it's important to make sure you send your sample to the proper laboratory and order the correct test. The various tests listed below can help you identify the presence of a TRK fusion in the cancer – importantly, these tests will also test many other genes in the tumor sample at the same time and may identify a different rational therapeutic option.

- **FoundationOne (Foundation Medicine)**
  - 315 genes included + 28 genes for fusions
- **FoundationOne Heme (Foundation Medicine)**
  - 405 genes included + 265 genes for fusions
  - Can be ordered for solid tumors, not just hematologic malignancies
- **GeneTrails Solid Tumor Fusion Gene Panel (Knight Diagnostic Laboratories)**
  - 20 genes for fusions
- **MI Profile (Caris Life Sciences)**
  - 592 genes included
  - Make sure that the Fusion Analysis is included
- **OmniSeq Comprehensive (OmniSeq)**
  - 144 genes, including fusions
- **Oncomine™ Focus Assay (Sirona Dx)**
  - 52 genes, including 23 genes for fusions
- **Paradigm Cancer Diagnostic (Paradigm)**
  - 186 genes, plus 17 for fusions and EGFR and MET skipping events
- **SmartGenomics NGS Solid Tumor (PathGroup)**
  - 62 genes, including fusions
- **Solid Tumor FOCUS::ONCOMINE NGS Panel (Cancer Genetics)**
  - Indicate on the order form to include fusions
- **Universal Fusion/Expression Profile (Neogenomics)**
  - 1,385 genes, including fusions

Oncologists should speak with their local pathologist or their preferred send-out laboratories to confirm that TRK fusion status is included in testing.



## Where can you get your questions addressed?

**If you have questions or need help,** call the Loxo Oncology TRK Patient and Physician Hotline, **1-855-NTRK-123**. You can talk directly to a Loxo Oncology physician who can help. You can also visit [loxooncologytrials.com](http://loxooncologytrials.com) for more information.

