F!GHT CRC
QUICK FACTS

NTRK FUSIONS

- Knowing your colorectal cancer (CRC) biomarkers can help you make well-informed decisions about how your cancer will be treated.
- NTRK gene fusion is one of a handful of important biomarkers for CRC patients to know about.

TRK FUSION CANCERS AND NTRK GENE FUSIONS

TRK fusion cancers are caused by genomic alterations that occur when one of the neurotrophic tyrosine receptor kinase (NTRK) genes become fused, or connected, to another unrelated gene, in this case, ETV6, LMNA, or TPM3. This fusion leads to uncontrolled TRK signaling, also called overexpression of TRK fusion proteins, which may lead to cancer. NTRK gene fusions are genomic alterations (biomarkers) that lead to the production of TRK fusion proteins.

If you test positive for NTRK fusions, there could be options for clinical trials and for TRK inhibiting treatments, like larotrectinib or entrectinib.

NTRK FUSIONS only occur in <1% of CRC patients.

NTRK TESTING

Testing for NTRK gene fusions identifies patients who may benefit from a TRK inhibitor therapy. Each test has advantages and disadvantages in terms of efficiency, turnaround time, sensitivity, and specificity.

- DNA-based next-generation sequencing (NGS) / RNA-based NGS: Detects known and novel fusions with breakpoints in DNA or RNA
- Reverse-transcriptase PCR (RT-PCR): Detects known fusion transcripts in RNA
- Fluorescence in situ hybridisation (FISH): Detects gene rearrangements in DNA that may generate a fusion transcript
- Immunohistochemistry (IHC): Useful in detecting TRK protein (can detect the TRK protein expression only)

Currently there are no recommendations for routine testing of NTRK genes in CRC patients, but it is still a good idea to ask your doctor about NTRK.

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NTRK FUSIONS

QUESTIONS TO ASK YOUR DOCTOR

1. Have I had biomarker testing (or molecular testing) done on my cancer?
2. What type of NTRK testing would be best for me?
3. How much will the testing cost? Will my insurance cover it?

Learn more about NTRK and other CRC biomarkers at fightcolorectalcancer.org/biomarked/

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