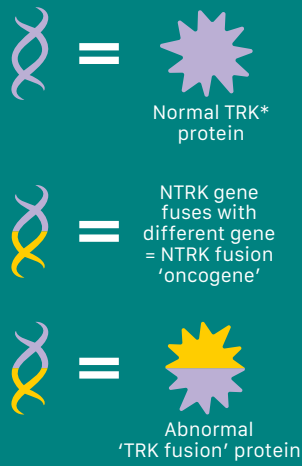


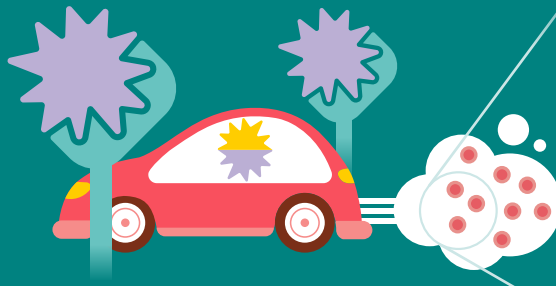
# NTRK Gene Fusion Cancer

## How NTRK\* gene fusions cause cancer growth

Cancer results from a change to one or more genes inside a cell. NTRK gene fusion cancer occurs when part of the NTRK gene fuses (binds) with a different gene. This 'fusion gene' or 'oncogene' acts like a faulty recipe, producing abnormal proteins that re-wire normal cells into cancer cells

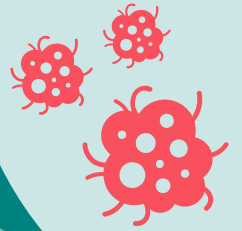


These abnormal proteins behave like a stuck accelerator to drive cancer growth, **ignoring the body's usual controls**



(The error to the NTRK gene **does not appear to be passed down through families.**)

Abnormal TRK fusion proteins help to drive cancer growth and spread.



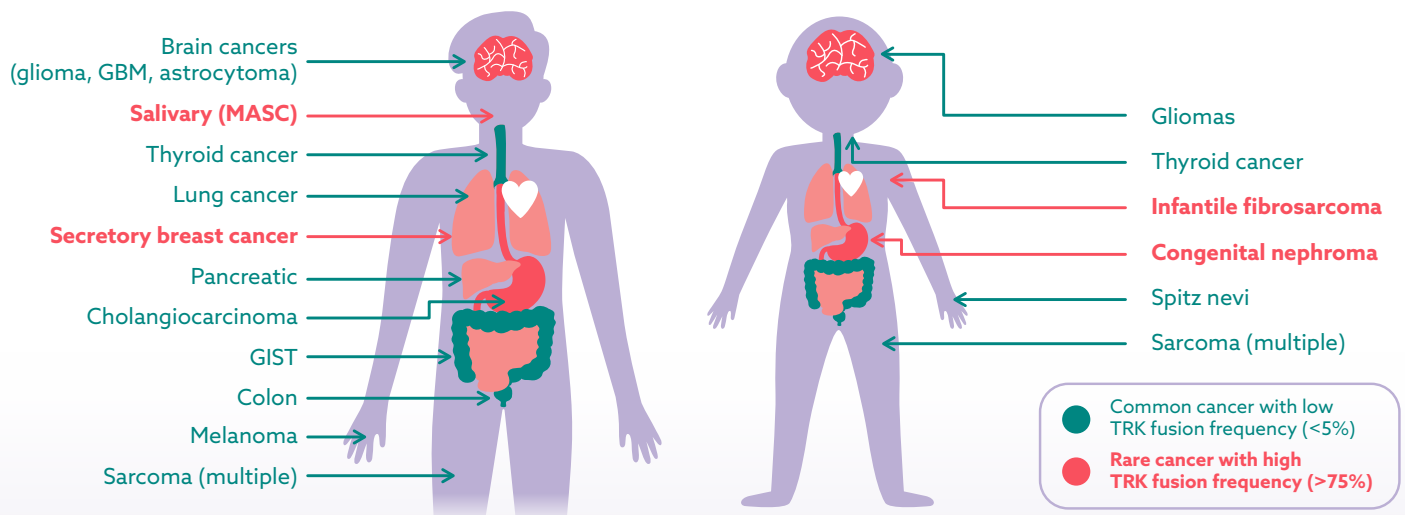
\*NTRK (neurotrophic tyrosine receptor kinase) genes (NTRK 1, 2 and 3) are responsible for TRK proteins

## Who should be tested for NTRK Gene Fusions?

NTRK gene fusions are rare but **can occur in many different tumor types**. Testing the tumor for genetic changes known to drive cancer, like **NTRK gene fusions**, can help to identify **treatment options** or **clinical trials**.

**1** Some tumor types, including salivary, secretory breast and infantile fibrosarcoma, are **likely to be growing because of a NTRK gene fusion**

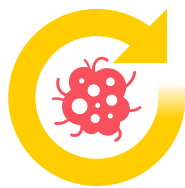
**2** For children, testing **soft tissue sarcomas and glioma**, particularly if high-grade, may be recommended



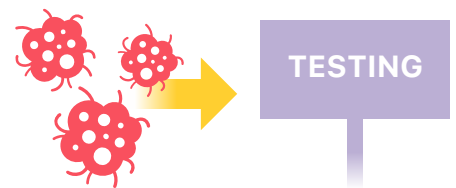
**3** In more common cancers, NTRK gene fusions are found in only a small number of cases but they can be more likely in childhood cancers and in **Gastrointestinal stromal tumor (GIST), spitzoid melanoma, some thyroid cancers and MSI-H colorectal cancer**

## When to test?

If a **cancer driver**, such as a **NTRK gene fusion**, is **suspected** or the cancer has **spread** and/or is **not responding** to standard therapy



Tumor might be **re-tested** if cancer **progresses**



## Biomarker 'genomic' testing is the only way to identify such cancer drivers

Genomic testing involves sending a tissue sample of the tumor or a circulating blood test (cfDNA) to a laboratory for DNA sequencing

The report from these tests can **help Medical teams decide upon suitable treatments or clinical trials**



Mention of finding a **"NTRK gene fusion"** or **"NTRK gene rearrangement/alteration"** is important before your medical team can decide on TRK inhibitor therapy

