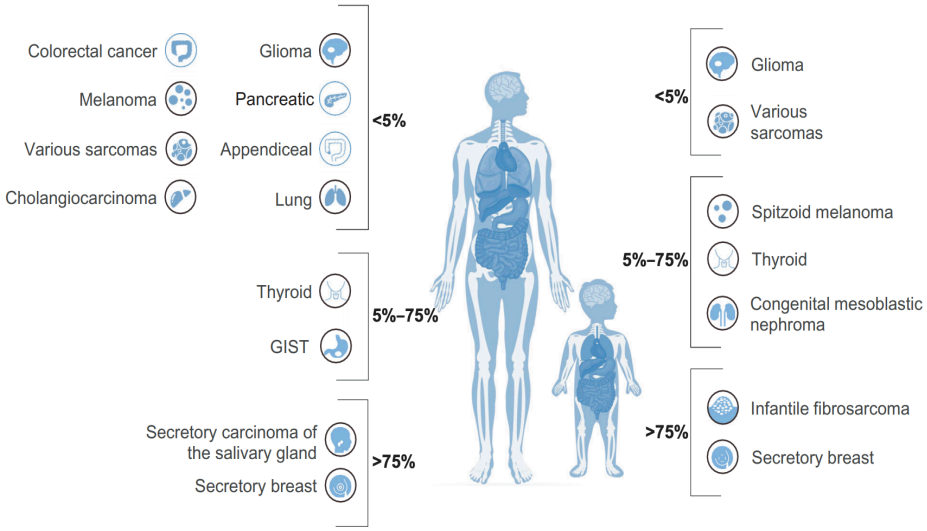
EMPIRE GENOMICS

NTRK PROBES

MULTICOLOR DNA PROBE PANELS



NTRK Fusions: Biomarkers Across Human Cancer

The NTRK gene family has come under intense scrutiny in the research and clinical communities as an exciting new target for gene-specific cancer treatment. The gene trio is made up of three tyrosine kinase encoders - NTRK1, NTRK2, and NTRK3 - known to regulate nervous system development. Only recently was NTRK's role in oncogenesis brought to light, the specifics of which are still under study. However, some important statistics about the prevalence of NTRK abnormalities in different cancers have been uncovered. Cancers with the highest frequencies of NTRK fusions include:

Infantile Fibrosarcoma

IF is an extremely rare childhood tumor, but is the most common nonrhabdomyosarcoma soft tissue tumor seen in infants under 1 year old. ETV6-NTRK3 fusions have been shown to occur with between 70% and 91% frequency in these tumors.

Secretory Breast and Salivary Gland Carcinoma

Secretory breast carcinoma (SBC) is a rare subset of infiltrating ductal carcinoma that harbors ETV6-NTRK3 fusions with over 90% frequency.

Congenital Mesoblastic Nephroma

This rare tumor occurs in the spindle cells of the kidney, most commonly in newborns or young infants. CMN has two three histologic subytpes – classic, cellular and mixed. ETV6-NTRK fusions are found in nearly all cases of cellular and mixed CMN.

Thyroid Carcinoma

In the US, papillary thyroid carcinoma (PTC) accounts for 90% of thryoid cancer in patients younger than 20. In one study of 27 pediatric PTC patients, NTRK fusions were found in 26% of cases.

Pediatric Glioma

In a study of 112 pediatric high-grade gliomas, NTRK fusions were detected in 8 of the patients, and were more common in non-brainstem high-grade glioma in patients < 3 years.

To View Our NTRK FISH Panel

visit www.empiregenomics.com/NTRK or call (716) 856-3873

Source: Hsiao, Susan J., et al. (2019) Jour Molec Diag