RELA fusion

RELA fusion refers to a genetic abnormality that occurs when a portion of the RELA gene on chromosome 11 fuses with another gene, resulting in a chimeric gene that produces a fusion protein. The RELA gene encodes for a protein called p65, which is a subunit of the transcription factor NF-κB.

NF-κB is a family of transcription factors that play a key role in regulating various cellular processes, including inflammation, immune response, and cell proliferation. Abnormal activation of NF-κB has been implicated in the development and progression of various types of cancer, as well as in other diseases and conditions.

RELA fusion has been observed in a number of different types of cancer, including pediatric brain tumors, such as ependymomas and glioblastomas, as well as in some adult solid tumors, such as lung cancer and sarcoma. The RELA fusion protein is thought to be oncogenic, meaning that it promotes the development and progression of cancer by altering the normal functions of p65 and NF-κB.

The detection of RELA fusion is important for diagnostic and prognostic purposes, as well as for developing targeted therapies that specifically target the fusion protein. Several studies are currently underway to investigate the potential clinical significance of RELA fusion and its potential as a therapeutic target in cancer treatment.