

XL MYCN amp Amplification Probe

Order No.:
D-6031-100-OG

Description

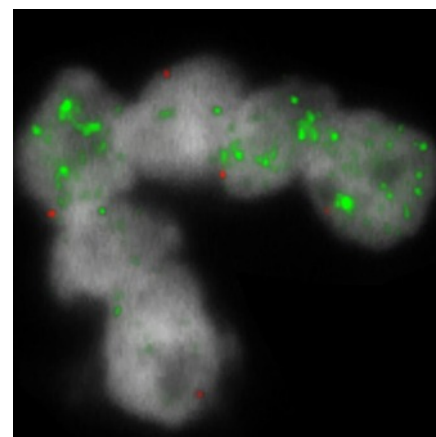
XL MYCN amp detects amplifications in the short arm of chromosome 2. The green labeled probe hybridizes to the MYCN locus at 2p24. An orange labeled probe hybridizes to the NMI gene region at 2q23 and functions as a reference probe. This probe is intended for methanol/acetic-acid fixed cells and tissue sections.

Clinical Details

The MYCN gene is a member of the MYC transcription factor family consisting of c-MYC, MYCN and MYCL. It is crucial for embryonic development, especially in the nervous system. The expression is tightly regulated in a spatial and timely manner and high levels are found in the developing brain, retina, neuroepithelial cells, lung and kidney. MYCN expression is associated with the maintenance of self-renewal capacity and the pluripotent status of stem cells. Dysregulation of MYCN contributes to the development of different kind of childhood tumors including neuroblastoma, medulloblastoma, rhabdomyosarcoma and Wilms tumor. MYCN is also involved in the development of some adulthood neoplasms as prostate and lung cancer. Neuroblastoma is the most common extracranial solid tumor in infants. About 6% of all cancers in children are caused by neuroblastomas and 20-25% of neuroblastoma patients are showing an amplification of the MYCN gene. MYCN amplification is an important prognostic marker for risk stratification in neuroblastoma. Generally, patients with MYCN amplification have a poor prognosis. FISH is a valuable tool for the analysis of the MYCN amplification status. It detects MYCN amplification on single-cell level and allows the correlation with morphological cell features.

Literature:

- Theissen et al (2009) Clin Cancer Res 15:2085-2090
- Huang and Weiss (2013) Cold Spring Harb Perspect Med 2013;3(10):a014415
- Ruiz-Pérez et al (2017) Genes 8(4):113

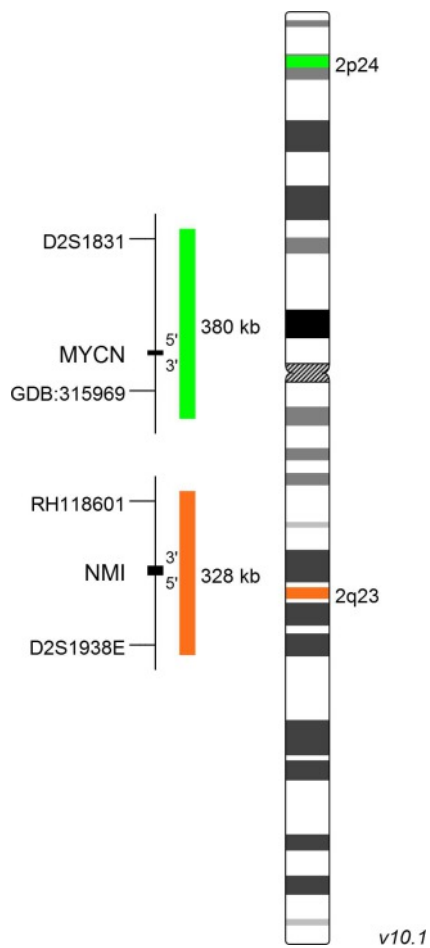


XL MYCN amp hybridized to neuroblastoma tissue. The expected normal signal pattern is two green and two orange signals. Amplification of MYCN is indicated by multiple copies of the green signal. MYCN amplification can appear in the form of double minutes (dm) and/or homogeneously staining regions (hsr). FISH directly shows if the amplification is present as dm and/or hsr on single cell basis.

Clinical Applications:

- Solid tumors

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Document No. PFS-D6031-2018-07-01-S
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