

ZytoLight® SPEC IRF4,DUSP22 Dual Color Break Apart Probe

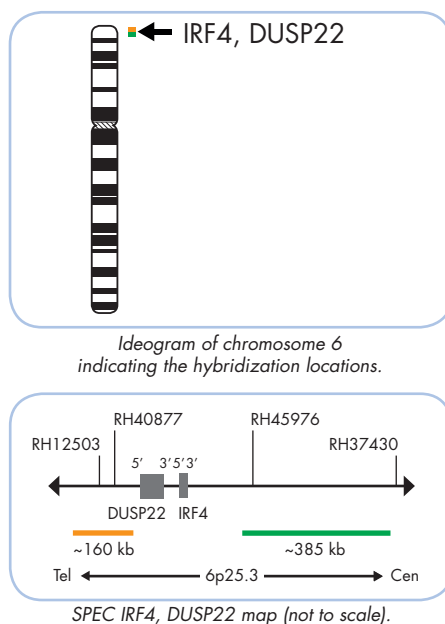


Background

The ZytoLight® SPEC IRF4,DUSP22 Dual Color Break Apart Probe is designed for the detection of translocations involving the chromosomal region 6p25.3 harboring the DUSP22 (dual specificity phosphatase 22, a.k.a. JKAP) and IRF4 (interferon regulatory factor 4, a.k.a. MUM1) genes. IRF4 is normally expressed in plasma cells, melanocytes, some B-cells, and in activated T-cells. The IRF4 protein is required at several stages of B-cell development, and is also critical for T-cell differentiation. Rearrangements of the IRF4/DUSP22 chromosomal region have been detected in various B-cell and T-cell lymphomas. Large B-cell lymphoma (LBCL) with IRF4 rearrangement, which occurs most commonly in children and young adults, is considered a distinct new provisional entity. These lymphomas most typically occur in Waldeyer ring and/or cervical lymph nodes. Most cases have IG/IRF4 fusions and have a favorable prognosis. Rearrangements of IRF4 and/or DUSP22 have also been described in peripheral T-cell lymphomas and in cutaneous anaplastic large cell lymphoma (ALCL). ALCL is difficult to distinguish from other CD30-positive T-cell lymphoproliferative disorders. IRF4 translocation has a high specificity for cutaneous ALCL supporting the clinical utility of FISH for IRF4 in the differential diagnosis of T-cell lymphoproliferative disorders. Moreover, DUSP22 rearrangement in ALK-negative ALCL is associated with a favorable outcome indicating the usefulness of DUSP22 as a predictive biomarker.

Probe Description

The SPEC IRF4,DUSP22 Dual Color Break Apart Probe is a mixture of two direct labeled probes hybridizing to the 6p25.3 band. The green fluorochrome direct labeled probe hybridizes proximal and the orange fluorochrome direct labeled probe hybridizes distal to the IRF4 and DUSP22 genes.

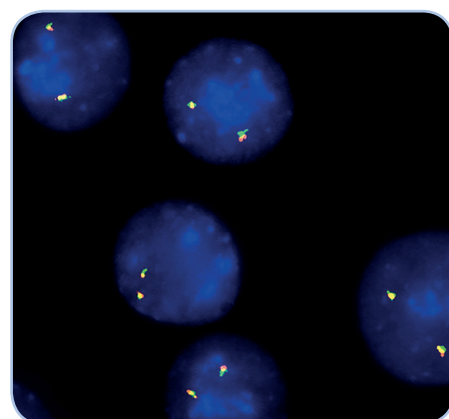


References

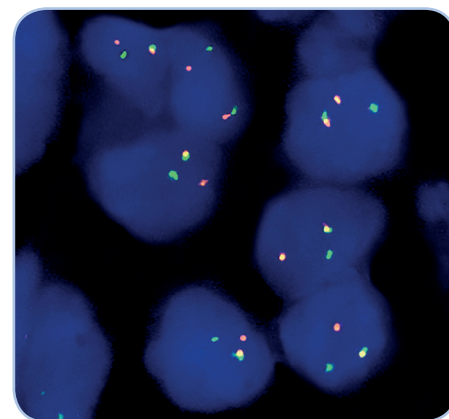
- Iida S, et al. (1997) Nat Genet 17: 226-30.
Parrilla Castellar ER, et al. (2014) Blood 124: 1473-80.
Pham-Ledard A, et al. (2010) J Invest Dermatol 130: 816-25.
Salaverria I, et al. (2011) Blood 118: 139-47.
Swerdlow SH, et al. (2016) Blood 127: 2375-90.
Wada DA, et al. (2011) Mod Pathol 24: 596-605.

Results

In an interphase nucleus lacking a translocation involving the 6p25.3 band, two orange/green fusion signals are expected representing two normal (non-rearranged) 6p25.3 loci. A signal pattern consisting of one orange/green fusion signal, one orange signal, and a separate green signal indicates one normal 6p25.3 locus and one 6p25.3 locus affected by a translocation.



SPEC IRF4, DUSP22 Dual Color Break Apart Probe hybridized to normal interphase cells as indicated by two orange/green fusion signals per nucleus.



T-cell lymphoma tissue section with translocation affecting the 6p25.3 locus as indicated by one non-rearranged orange/green fusion signal, one orange signal, and one separate green signal indicating the translocation.

Prod. No.	Product	Label	Tests* (Volume)
Z-2210-50	ZytoLight SPEC IRF4,DUSP22 Dual Color Break Apart Probe CE IVD	●/●	5 (50 µl)
Related Products			
Z-2028-5	ZytoLight FISH-Tissue Implementation Kit CE IVD Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 150 ml; 25x Wash Buffer A, 50 ml; DAPI/DuraTest-Solution, 0.2 ml		5
Z-2099-20	ZytoLight FISH-Cytology Implementation Kit CE IVD Incl. Cytology Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 50 ml; 10x MgCl ₂ , 50 ml; 10x PBS, 50 ml; Cytology Stringency Wash Buffer SSC, 500 ml; Cytology Wash Buffer SSC, 500 ml; DAPI/DuraTest-Solution, 0.8 ml		20

* Using 10 µl probe solution per test. CE IVD only available in certain countries. All other countries research use only! Please contact your local dealer for more information.