

ZytoLight® SPEC VHL/CEN 3 Dual Color Probe

Background

The *ZytoLight*® SPEC VHL/CEN 3 Dual Color Probe is designed for the detection of deletions affecting the VHL gene.

The tumor suppressor gene VHL (von Hippel-Lindau) is located on 3p25.3 and encodes a 30 kDa protein with ubiquitin ligase E3 activity. The protein is involved in the ubiquitination and degradation of hypoxia-inducible-factor (HIF), which is a transcription factor that plays a critical role in the regulation of gene expression by oxygen.

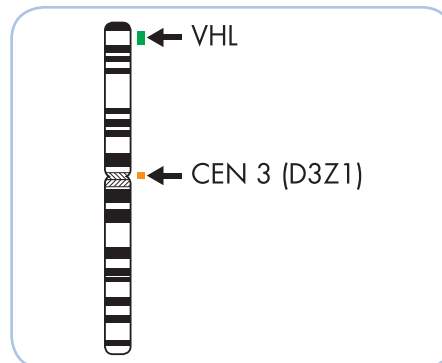
Loss of heterozygosity (LOH) at chromosome 3p and inactivation of the VHL gene by deletion or mutation is the most frequent genetic change in sporadic as well as VHL disease-associated conventional renal cell carcinomas (RCC) whereas alterations of this region are rarely seen in papillary and chromophobe RCC. Recent studies suggest that the determination of the VHL status by FISH can significantly improve the accuracy of kidney tumor biopsy evaluation, providing prognostic information that can guide management decisions.

References

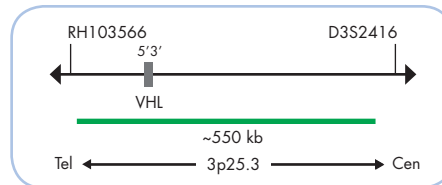
- Barocas DA, et al. (2006) *BJU Int* 99: 290-5.
 Broom RJ, et al. (2012) *Clin Genitourin Cancer* 10: 202-6.
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Probe Description

The SPEC VHL/CEN 3 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 3 probe specific for the alpha satellite centromeric region of chromosome 3 (D3Z1) and a green fluorochrome direct labeled SPEC VHL probe spanning the VHL gene at 3p25.3.



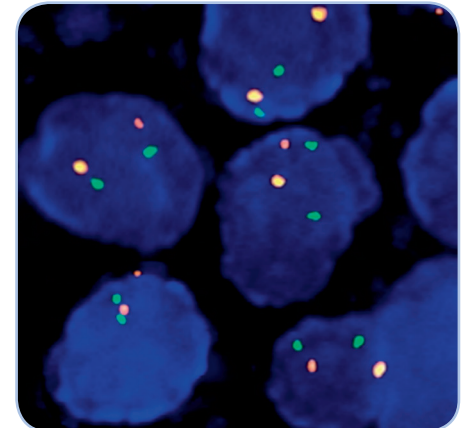
Ideogram of chromosome 3 indicating the hybridization locations.



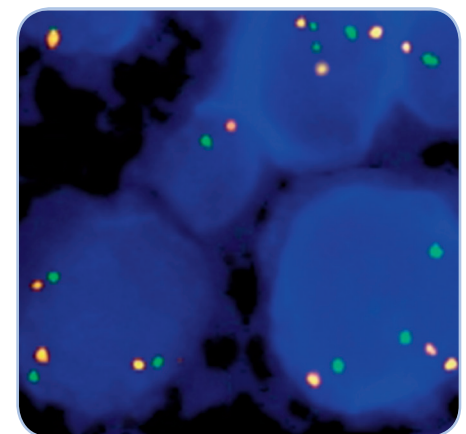
SPEC VHL Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with deletions affecting the VHL gene, one or no copy of the green signal will be observed.



SPEC VHL/CEN 3 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Trisomy of chromosome 3 as indicated by three orange (CEN 3) and three green (VHL) signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2084-200	ZytoLight SPEC VHL/CEN 3 Dual Color Probe CE IVD	●/●	20 (200 µl)
Related Products			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit CE IVD		20
Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 500 ml; 25x Wash Buffer A, 100 ml; DAPI/DuraTect-Solution, 0.8 ml			

* 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.