

ZytoFast[®] HPV-CISH System



Background

The ZytoFast[®] HPV-CISH System is designed for the detection and discrimination of human papilloma virus (HPV) DNA in paraffin-embedded tissue sections or cell samples.

At least 50 percent of sexually active men and women acquire some form of genital HPV infection at some point in their lives. Most of the approx. 30 identified genital HPV types, predominantly types 6 and 11, are called "low-risk" types, and may cause mild Pap test abnormalities or genital warts.

Until now, approximately 10–15 HPV types are associated with lesions that can progress to cancer. Among those are the HPV types 16/18/31/33/35/39/45/51/52/56/58/59/66/68/82.

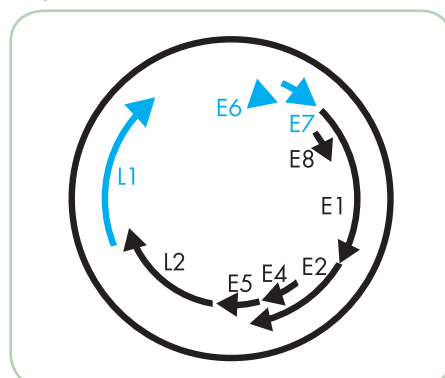
These cancer-associated HPV types are designated as high-risk HPV (hr-HPV) types. The infection with the HPV hr-types can lead to development of cancer of the cervix, vulva, vagina, anus, or penis. The majority of malignant cervical carcinomas (approx. 70%) occur as a result of infections with HPV types 16 or 18.

References

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Probe Description

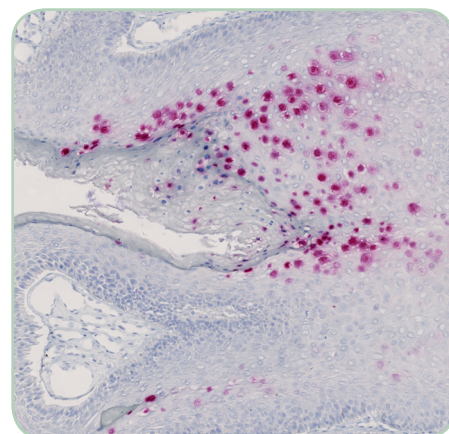
ZytoFast[®] HPV specific probes are directed against DNA sequences which encode the HPV proteins E6, E7 and/or L1. The probes consist of HPV-type-specific oligonucleotides, Biotin or Digoxigenin labeled by using the unique ZytoFast[®] HighTag System providing improved signal intensity. In addition to the detection of HPV at the DNA level, HPV probes will also allow detection of E6, E7, and/or L1 RNAs, which are expressed during some stages of infection.



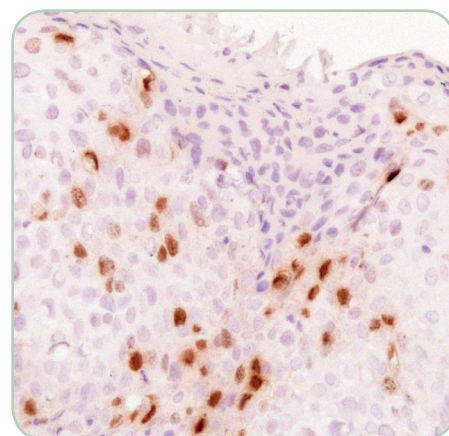
Schematic representation of the HPV genome with E and L open reading frames. Genomic regions targeted by ZytoFast[®] HPV specific oligonucleotides are indicated in blue.

Results

A positive reactivity for HPV DNA in epithelial cells is indicated by a distinctly stained nucleus. Due to the detection of HPV DNA as well as E6, E7, and/or L1 RNAs, depending on the infection stage, cytoplasmic staining might be observed additionally. Depending on the detection chemistry that is used, colored precipitates, which can be clearly distinguished from the background, will be dark violet-blue when using NBT/BCIP as substrate, dark brown when using DAB, or strong red when using Permanent Red.



HPV infected cervix tissue hybridized with the ZytoFast[®] HPV type 6/11 Probe, detected with the ZytoFast[®] PLUS CISH Implementation Kit AP-Permanent Red.



HPV infected cervix tissue hybridized with the ZytoFast[®] HPV High-Risk (HR) Types Probe, detected with the ZytoFast[®] PLUS CISH Implementation Kit HRP-DAB.