

# ZytoFast® EBV-CISH System



## Background

The ZytoFast® EBV-CISH System is designed for the detection of Epstein-Barr virus (EBV) EBER RNA in paraffin-embedded tissue sections or cell samples. EBV (a.k.a. human herpesvirus-4, HHV-4) is a member of the gamma-herpesvirus group and one of the most common viruses in humans.

Transmission of EBV requires close, intimate contact with a person excreting the virus in its saliva. EBV has two major target tissues *in vivo*, B lymphocytes and squamous pharyngeal epithelium. Infection of B lymphocytes with EBV results in persistent latent infection, immortalization of the cells, and perpetual proliferation. EBV, the first virus to be identified as an oncovirus, is the etiological agent of infectious mononucleosis and has been implicated in the pathogenesis of an increasing number of human malignancies such as Burkitt lymphoma, nasopharyngeal carcinoma, and polyclonal lymphomas in immunocompromised individuals. CISH-based diagnosis of EBV infection has the advantage over other methods in that it permits unequivocal localization of EBV genomes in cells and thereby obviates the risk of false positive results due to laboratory or clinical contamination.

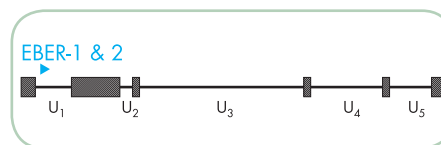
### References

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## Probe Description

The ZytoFast® EBV Probe is directed against EBER-1 and EBER-2 RNA sequences that were found to be transcribed in every latently infected cell. Due to the large number (up to 10<sup>7</sup>) of copies per cell, these RNAs are the most abundant transcripts in latently EBV-infected cells.

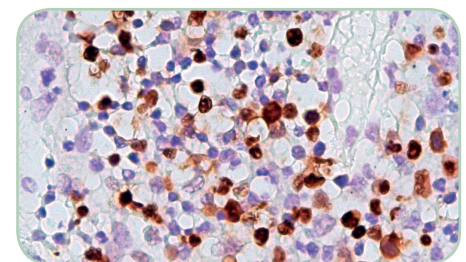
The probe consists of EBV-specific oligonucleotides, Digoxigenin-labeled by using the unique ZytoFast® High Tag System providing improved signal intensity.



Schematic representation of the EBV genome with the EBER-1 and EBER-2 encoding region indicated in blue. U1-U5 indicate unique nucleotide sequences, hatched boxes represent terminal and internal repeats.

## Results

A positive reactivity for Epstein-Barr-virus (EBV) EBER RNA in the target cells is indicated by a distinctly stained nucleus. 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.



EBV infected tonsil tissue hybridized with ZytoFast® EBV Probe, detected with ZytoFast® PLUS CISH Implementation Kit HRP-DAB.

## Digoxigenin-labeled

Prod. No.	Product	Tests* (Volume)
T-1114-400	ZytoFast EBV Probe CE IVD	40 (400 µl)
<b>Related Products</b>		
T-1061-40	ZytoFast PLUS CISH Implementation Kit AP-NBT/BCIP CE IVD Incl. DNA (+) Control Probe, 0.1 ml; DNA (-) Control Probe, 0.1 ml; 28S rRNA (+) Control Probe, 0.1 ml; RNA (-) Control Probe, 0.1 ml; Heat Pretreatment Solution EDTA, 500 ml; Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 4x 50 ml; Rabbit-anti-DIG, 4 ml; Anti-Rabbit-AP-Polymer, 4 ml; NBT/BCIP Solution, 4ml; Nuclear Red Solution, 20 ml; Mounting Solution (alcoholic), 4 ml	40
T-1063-40	ZytoFast PLUS CISH Implementation Kit HRP-DAB CE IVD Incl. DNA (+) Control Probe, 0.1 ml; DNA (-) Control Probe, 0.1 ml; 28S rRNA (+) Control Probe, 0.1 ml; RNA (-) Control Probe, 0.1 ml; Heat Pretreatment Solution EDTA, 500 ml; Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 4x 50 ml; Mouse-anti-DIG, 4 ml; Anti-Mouse-HRP-Polymer, 4 ml; DAB Solution A, 0.3 ml; DAB Solution B, 10 ml; Nuclear Blue Solution, 20 ml; Mounting Solution (alcoholic), 4 ml	40
T-1151-40	ZytoFast PLUS CISH Implementation Kit AP-Permanent Red CE IVD Incl. DNA (+) Control Probe, 0.1 ml; DNA (-) Control Probe, 0.1 ml; 28S rRNA (+) Control Probe, 0.1 ml; RNA (-) Control Probe, 0.1 ml; Heat Pretreatment Solution EDTA, 500 ml; Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 4x 50 ml; Rabbit-anti-DIG, 4 ml; Anti-Rabbit-AP-Polymer, 4 ml; Permanent Red Solution A, 0.25 ml; Permanent Red Solution B, 15 ml; Mayer's Hematoxylin Solution, 20 ml; Mounting Solution (alcoholic), 4 ml	40

\* 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.