

# Eppendorf Certificate

## Certificate of Purity – PCR clean

This package contains a high quality consumable manufactured under the PCR clean Eppendorf Purity Standard.

The Eppendorf PCR clean consumables are produced in a class 6 (according to VDI 2083) and a class 100,000 (according to U.S. Fed. Stand. 209 D) clean room environment.

For this product Eppendorf certifies the following [\*]:

Free of detectable

- Human DNA
- DNase
- RNase
- PCR inhibitors



Quality control and subsequent certification is done by an independent laboratory (accredited by DAkkS). Lot-specific certificates are available on request or on the internet at [www.eppendorf.com/certificates](http://www.eppendorf.com/certificates).

The certification comprises the following tests:

### Human DNA Contamination Test

A PCR master mix is prepared using the QuantiTect® Sybr® Green PCR Kit (Qiagen®) and primer for the detection of human DNA. The primers amplify a 294 bp fragment present in more than  $1 \times 10^5$  copies per human cell. The master mix (15 µl) is added to 5 positive control vessels containing known amounts of human DNA (32, 16, 8, 4 and 2 pg in 10 µL H<sub>2</sub>O) plus a negative control (10 µL DNA-free H<sub>2</sub>O).

15 samples are rinsed one after another with DNA-free water. 10 µL of this solution is added to 15 µL master mix. PCR is done for 30 cycles.

The emittance of Sybr Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, no fluorescence must be found corresponding to the negative control.

### DNase Test

15 samples are rinsed one after another with DNA-free water. 17 µL of these solutions are mixed with 3 µL DNase-buffer containing 100 bp DNA-ladder in a DNase-free tube. A positive control is spiked with DNase, a negative control contains DNA-free water. All tubes are incubated for 24 h at 37 °C.

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The DNA is analyzed by agarose-gel electrophoresis. DNase contamination is indicated by degradation of the DNA ladder. For samples to pass certification, the relative intensities of the DNA pattern of the samples must correspond to the negative control.

\* In addition, filtertips are sterile & free of pyrogens, UVettes are free of protein.

## RNase Test

15 samples are rinsed one after another with RNA-free water. 17  $\mu\text{L}$  of these solutions are mixed with 3  $\mu\text{L}$  RNase-buffer containing 100 bp RNA-ladder in a RNase-free tube. A positive control is spiked with RNase, a negative control contains RNA-free water. All vessels are incubated for 24 h at 37 °C.

The RNA is analyzed by agarose-gel electrophoresis. RNase contamination is indicated by degradation of the RNA ladder. For samples to pass certification, the relative intensities of the RNA pattern of the samples must correspond to the negative control.

## PCR Inhibitor Test

A PCR master mix is prepared using the QuantiTect Sybr Green PCR Kit (Qiagen), primer for the detection of human DNA and 16 pg human DNA. The primers amplify a 294 bp fragment present in more than  $10^5$  copies per human cell.

15 samples are rinsed one after another with DNA-free water. 10  $\mu\text{L}$  of this solution is added to 15  $\mu\text{L}$  master mix plus 16 pg human DNA. PCR is done for 30 cycles.

The emittance of Sybr Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, the CT-values of the samples are compared with the positive control (containing 16 pg human DNA). The difference of the CT-value between the samples and the control must be in range of  $\pm 2$  cycles.

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