# Horse QPCR (Catalog# TBS42004)

## DESCRIPTION

The Horse QPCR Kit is designed for the target-DNA specific detection of horse matter in food and animal feed ingredients. The assay uses a real-time PCR-based protocol with fluoresce-probe to detect target DNA. It can detect as few as 10 copies of the target DNA in a reaction and it exhibits high specificity for horse. No cross-reactivity is observed with other animal species (See Table 1). The detection of target DNA confirms ingredient authenticity or prevents food fraud, ethical issues, or health concerns.

## PRINCIPLE

Authenticating ingredients using real-time PCR is based on the amplification of a specific region of the relevant target genome. The amplified product is detected using target-specific fluorescent probes that bind to the amplified product. As the PCR product accumulates, there is an increased fluorescent signal from the bound probes. Monitoring the fluorescence intensities during the PCR run allows the detection of the accumulating PCR product in real time.

The Horse QPCR Assays include internal controls (Positive and Negative). These aids in the straightforward interpretation of the results (see the table "Summary of possible PCR outcomes").

## APPLICATIONS

- Detect horse-derived DNA in food and animal feed

## KIT CONTENTS

| Name | Volume |
|---|---|
| 2x QPCR Buffer | 1.25 mL |
| Primer-Probe mix | 125 µL |
| Positive Control DNA | 25 µL |
| Negative Control DNA | 25 µL |

**Sufficient reagent for 100 x 20µL**

## STORAGE CONDITIONS

The kit is shipped on ice, and stored at -20°C for long-term storage. Shelf life of 12 months after receipt.

## KEY FEATURES

- ❖ Highly sensitive and specific authentication of ingredients
- ❖ High efficiency: the optimal buffer condition and specific engineered Taq DNA polymerase have increased the efficiency of PCR amplifications.
- ❖ Streamlined protocol: Just add DNA Template.
- ❖ No cross reactivity with other species.

## PCR PROTOCOL

1. Set up PCR reaction for each sample in 25 µL

| Component | Volume (µL) |
|---|---|
| 2×qPCR Buffer | 12.5 |
| Primer-probe mix | 1 |
| DNA Template | 1-3 |
| DD water | 8-11 |
| Total Volume | 25 |

Internal control should be included as below:
Positive Control (1 µL DNA /reaction)
Negative Control (1 µL DNA/reaction)
Blank Control: no DNA template

2. Suggested PCR conditions

| Denature | Amplification | Cycle Number |
|---|---|---|
| 95℃ | 95℃ 15S | 40 |
| 3min | 60℃ 30S | |

## DATA ANALYSIS

Positive Reaction: Sample Ct < or = 35， and Positive, Negative and Blank controls are normal.

Negative Reaction: Sample Ct > 35， and Positive, Negative and Blank controls are normal.

Repeat Reaction: If one of the control reactions is not normal, PCR reaction is failed, and should be repeated.


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**Table1: Cross-reactivity Survey**

| Species | Result | Species | Result |
|---|---|---|---|
| Horse | + | Deer | – |
| Water buffalo | – | Cod | – |
| Turkey | – | Salmon | – |
| Chicken | – | Rabbit | – |
| Goose | – | Corn | – |
| Duck | – | Soy | – |
| Goat | – | Rice | – |
| Sheep | – | Wheat | – |
| Cattle | – | Potato | – |
| Pig | – | | |