



Foodborne Pathogens and Animal Identification PCR Kits



KleverTest PCR kits are *in vitro* diagnostic kits designed for the fast qualitative and/or quantitative detection of nucleic acids of **various foodborne pathogens** in laboratory practice by **real-time PCR** with hybridization-fluorescence detection of amplified products.



The kits contain special additives that significantly increase resistance to inhibitors. The use of **uracil-DNA glycosylase (UDG)** allows the risk of carry-over contamination to be avoided.



The KleverTest reagent kits use a rapid and simple amplification protocol, delivering reliable assay results in **70–90 minutes** with minimal risk of operator error, significantly improving the accuracy of laboratory analyses.



KleverTest PCR kits are suitable for the most popular real-time PCR instruments and are designed to perform **100 tests** per kit, with high specificity and sensitivity.



We also offer **kits for RNA/DNA isolation** based on magnetic beads and spin columns. They can be used in manual or automated modes and are compatible with most popular automatic extraction stations.

1. Bacterial foodborne pathogens PCR kits

Foodborne bacterial pathogens are biological agents that cause foodborne illnesses. The most common foodborne germs responsible for these infections include *Salmonella* spp., *Listeria monocytogenes*, *Escherichia coli*, *Clostridium perfringens*, *Bacillus cereus*, *Staphylococcus aureus*, and *Campylobacter* spp. Using PCR tests to detect these pathogens is crucial because they offer high sensitivity and specificity, enabling rapid and accurate identification of infectious agents. The PCR efficiency of KleverTest kits for detecting foodborne bacterial pathogens is shown in Figures 1 and 2.

Product code	Product name	Control type	LOD (copies/ml)*	Pathogen	Genome type	Tests
RKF-SYSC-100	KleverTest Bacterial Gastroenteritis PCR Kit	EXO	1000	<i>Salmonella</i> spp., <i>Yersinia</i> spp., <i>Shigella</i> spp. / enteroinvasive <i>E. coli</i> (EIEC) and <i>Campylobacter</i> spp.	DNA	100
RKF-SS-100	KleverTest <i>Salmonella</i> spp. PCR Kit	EXO	1000	<i>Salmonella</i> spp.	DNA	100
RKF-LM-100	KleverTest <i>Listeria monocytogenes</i> PCR Kit	EXO	1000	<i>Listeria monocytogenes</i>	DNA	100

*Under isolation from 100 μ l of sample

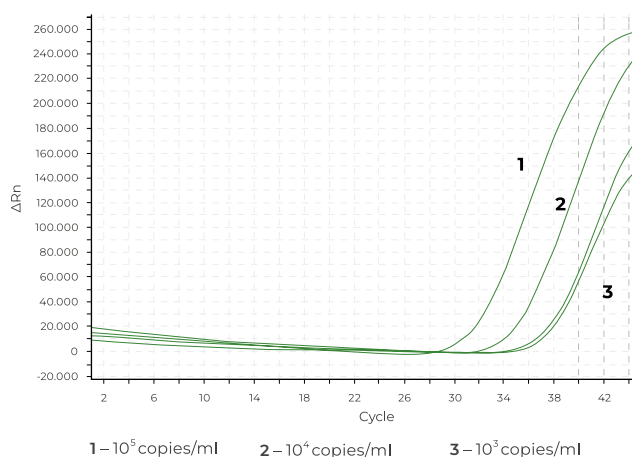
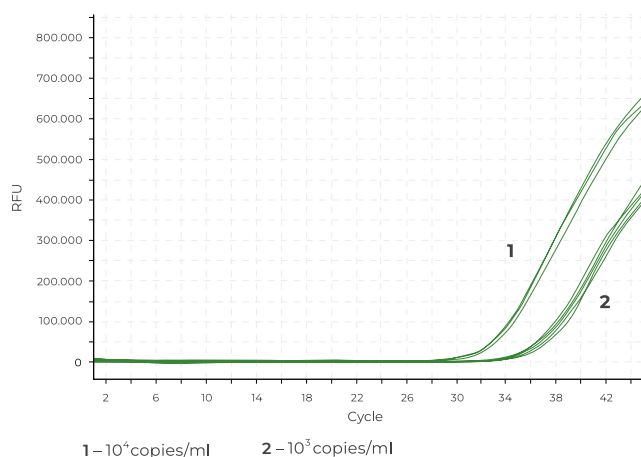
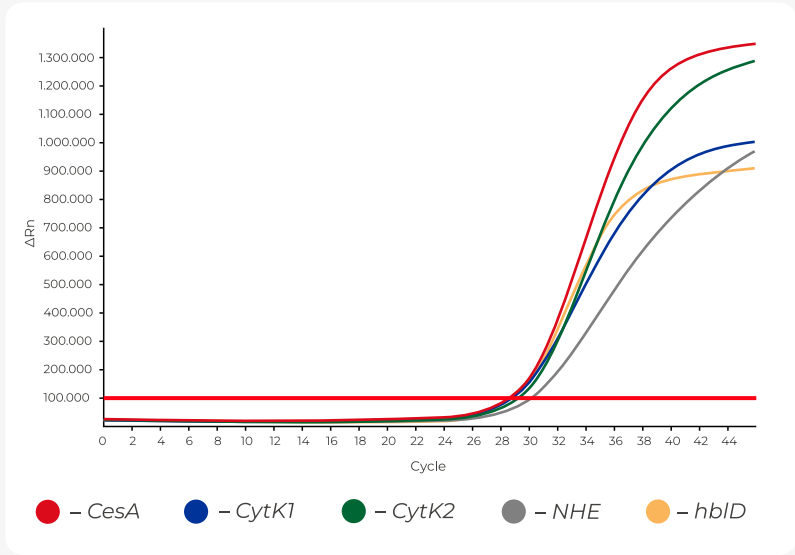


Figure 1, 2. Limits of detection (LOD) for the kits is estimated to be 10^3 genome equivalent copies of DNA per 1 ml of sample (95% confidence interval). LOD was evaluated on quantified DNA from verified *Listeria monocytogenes* (Figure 1) and *Salmonella enterica* (Figure 2) cell cultures.

2. Bacterial toxin genes differentiation PCR kits

Product code	Product name	Control type	LOD (copies/ml)*	Pathogen	Genome type	Tests
RKF-BCDT-100	KleverTest Bacillus cereus DiTox PCR Kit	EXO	1000	<i>Bacillus cereus</i> genes: <i>nheA</i> (non-hemolytic enterotoxin), <i>hblD</i> (hemolysin BL), <i>cytK1</i> (cytolysin variant 1), <i>cytK2</i> (cytolysin variant 2), and <i>ces</i> (cereulide synthase/emetic syndrome marker)	DNA	100
RKF-CPDT-100	KleverTest Clostridium perfringens DiTox PCR Kit	EXO	1000	<i>Clostridium perfringens</i> genes: <i>cpe</i> (clostridial enterotoxin), <i>cpb</i> (beta-toxin), <i>cpb2</i> (beta2-toxin)	DNA	100
RKF-SADT-100	KleverTest Staphylococcus aureus DiTox PCR Kit	EXO	1000	<i>Staphylococcus aureus</i> genes: <i>sea</i> (enterotoxin A), <i>seb</i> (enterotoxin B), <i>sec</i> (enterotoxin C), <i>sed</i> (enterotoxin D), <i>see</i> (enterotoxin E)	DNA	100

*Under isolation from 100 µl of sample



KleverTest DiTox PCR Kits are designed for the qualitative detection and differentiation of virulence-associated toxin genes in the most common bacterial foodborne pathogens, like *Bacillus cereus*, *Clostridium perfringens*, and *Staphylococcus aureus*.

Examples of the PCR efficiency in detecting and differentiating virulence-associated toxin genes in *Bacillus cereus*, *Clostridium perfringens* and *Staphylococcus aureus* are shown in Figures 3–5.

Figure 3. Results of positive control amplification of KleverTest Bacillus cereus DiTox PCR Kit.

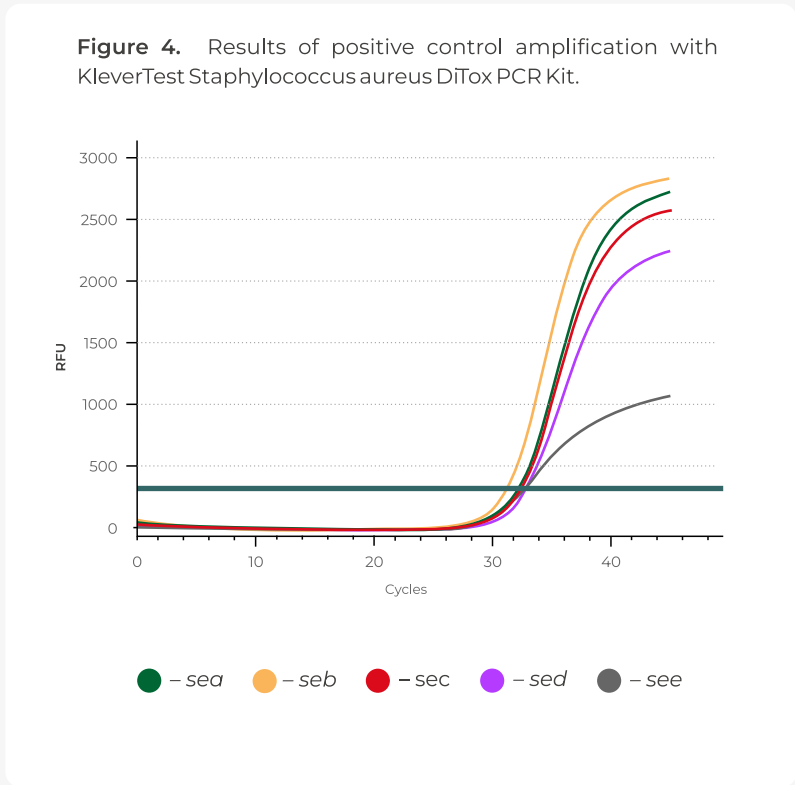
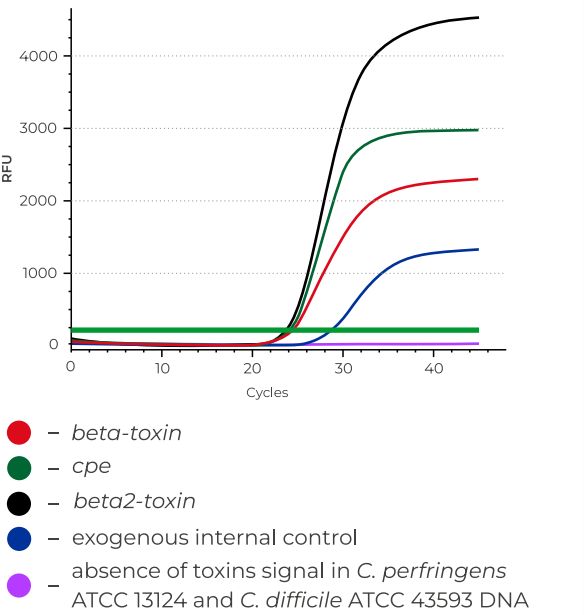


Figure 5. Results of positive control and bacterial DNA amplification with KleverTest Clostridium perfringens DiTox PCR Kit.



3. Animal Identification PCR kits

KleverTest ID PCR kits are designed for the rapid, sensitive, and specific detection of animal-derived material in food, feed, and raw material samples. The kits enable accurate identification of species origin — including beef, pork, rabbit, poultry, horse, sheep, goat, donkey, insects and other commercially relevant species — even in processed, heat-treated, or highly degraded matrices such as sausages, canned goods, gelatin, and meat-and-bone meal.

Product code	Product name	Control type	Pathogen	Genome type	Tests
RKF-BPHID-100	KleverTest Beef/Pork/Horse ID PCR Kit	EXO	genus <i>Bos</i> , <i>Sus scrofa</i> , <i>Equus caballus</i> , <i>Equus ferus</i>	DNA	100
RKF-BSID-100	KleverTest Beef/Sheep ID PCR Kit	EXO	genus <i>Bos</i> and genus <i>Ovis</i> with differentiation	DNA	100
RKF-CTID-100	KleverTest Chicken/Turkey ID PCR Kit	EXO	<i>Gallus gallus</i> , <i>Meleagris gallopavo</i>	DNA	100
RKF-DID-100	KleverTest Donkey ID PCR Kit	EXO	<i>Equus asinus</i>	DNA	100
RKF-DPID-100	KleverTest Donkey/Pork ID PCR Kit	EXO	<i>Equus asinus</i> , <i>Sus scrofa</i> with differentiation	DNA	100
RKF-DPPoID-100	KleverTest Donkey/Pork/Poultry ID PCR Kit	EXO	<i>Equus asinus</i> , <i>Sus scrofa</i> and genera <i>Gallus</i> , <i>Meleagris</i> and <i>Anas/Anser</i> with differentiation	DNA	100
RKF-FID-100	KleverTest Farm ID PCR Kit	EXO	genera <i>Gallus</i> , <i>Meleagris</i> , <i>Anas</i> and <i>Anser</i> , <i>Sus scrofa</i> and genera <i>Bos</i> , <i>Capra</i> , <i>Ovis</i> with differentiation	DNA	100
RKF-HID-100	KleverTest Horse ID PCR Kit	EXO	<i>Equus caballus</i> , <i>Equus ferus</i>	DNA	100
RKF-IID-100	KleverTest Insect ID PCR Kit	EXO	<i>Gryllobates sigillatus</i> , <i>Acheta domesticus</i> , <i>Locusta migratoria</i> and <i>Tenebrio molitor</i> with differentiation	DNA	100
RKF-PID-100	KleverTest Pork ID PCR Kit	EXO	<i>Sus scrofa/Sus scrofa domesticus</i>	DNA	100
RKF-PoID-100	KleverTest Poultry ID PCR Kit	EXO	genera <i>Gallus</i> , <i>Meleagris</i> and <i>Anas/Anser</i> with differentiation	DNA	100
RKF-RID-100	KleverTest Rabbit ID PCR Kit	EXO	<i>Oryctolagus cuniculus</i>	DNA	100
RKF-SID-100	KleverTest Sheep ID PCR Kit	EXO	genus <i>Ovis</i>	DNA	100
RKF-TID-100	KleverTest Turkey ID PCR Kit	EXO	<i>Meleagris gallopavo</i>	DNA	100



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