


PCR Diagnostic Kits



A gloved hand holds a PCR diagnostic kit vial. The background is a dark field with various DNA sequences (CTTAACTGCTG, GCCA, GG, T, GGG, AGC, CAG, CATNAGTGTC) in a light grey font. A dark green hexagonal overlay is positioned over the vial, containing white text.

Specially designed **PCR diagnostic kits** for detection of bacterial, viral and other microorganisms DNA, provide rapid diagnosis with high sensitivity and specificity

For research use only

PCR DIAGNOSTIC KITS

PCR Diagnostic Kits for detection of bacterial, viral and other microorganisms' DNA, provide rapid diagnosis with high sensitivity and specificity.

Specially designed and optimised reaction mixtures (Master Mixes) contain PCR primers that enable specific amplification of a particular gene fragment. Each kit contains enough reagents for fifty 50 µl reactions. The Master Mixes and the deoxyribonucleotide solutions (dNTPs) are divided into five aliquots (ten reactions each) to minimise the risk of contamination and avoid the effects of frequent freeze/thaw cycles. Each kit contains a positive control which is sufficient for ten PCR reactions.

Positive and negative (no template) PCR controls should be prepared for each set of analysed samples. A PCR product of expected molecular weight in an electrophoretic image along with valid positive and negative controls indicates the presence of a tested organism's DNA in the sample.

Some kits use **nested PCR** with two sequential PCR reactions to increase the sensitivity of detection. The initial PCR-OUT reaction uses one set of primers to produce the template for the subsequent PCR-IN reaction. The PCR-IN reaction uses a second set of primers that are complementary to regions inside the PCR-OUT product.

PCR genotyping kits determine the characteristic features of a particular species, including virulence factors and intraspecies genotyping.

MATERIALS AND EQUIPMENT REQUIRED: gel electrophoresis equipment, UV-transilluminator, thermal cycler, automatic pipettes, filter-tips, and Eppendorf and PCR tubes. The PCR kits do not contain DNA or RNA extraction reagents (available upon request).

- We design and prepare **PCR diagnostic kits upon request**.
- We provide **trial samples** (for ten reactions) for most of the PCR diagnostic kits.

Product Name	Quantity	Cat. No.
Microbial DNA detection kits (Single PCR)		
Helicobacter pylori	50 tests	PK43N
Mycoplasma hominis		PK48
Salmonella		PK30
Staphylococcus aureus		PK35
Ureaplasma urealyticum		PK47
Urea & Myco Kit		PK49
Microbial DNA detection kits (Nested PCR)		
Anaplasma	50 tests	PK24N
Babesia		PK25N
Borrelia		PK17N
Chlamydia pneumoniae		PK16
Chlamydia trachomatis		PK15
CMV		PK22
Cryptosporidium parvum		PK50
HBV		PK21
HPV16		PK18N
Toxoplasma gondii		PK40
Kits for genotyping		
Helicobacter pylori CAG	50 tests	PK10N
Staphylococcus aureus MRSA		PK14
PCR MP Kit		PK46

Microbial DNA detection kits (SINGLE PCR)

Kit contents:

- 5 x reaction mixture (Master Mix) for ten reactions
- 5 x dNTPs solution for ten reactions
- Positive control for ten reactions (packaged separately)
- Thermostable DNA polymerase (for fifty reactions)
- Molecular Weight DNA Ladder for ten lanes

Helicobacter pylori

A PCR diagnostic kit for the detection of *H. pylori* DNA isolated from gastric biopsy specimens and cell cultures. The PCR product is a fragment of a urease gene (*ureA*) (size: 315 bp).

Mycoplasma hominis

A PCR diagnostic kit for the detection of *M. hominis* DNA isolated from clinical samples. PCR product size: 334 bp.

Salmonella

A PCR diagnostic kit for the detection of *Salmonella* spp. DNA isolated from food and cell cultures. The PCR

product sequence is unique for *Salmonella* species (size: 429 bp).

Staphylococcus aureus

A PCR diagnostic kit for the detection of *S. aureus* DNA isolated from food, clinical samples, and cell cultures. PCR product size: 280 bp.

Ureaplasma urealyticum

A PCR diagnostic kit for the detection of *U. urealyticum* DNA isolated from clinical samples. PCR product size: 429 bp.

Urea & Myco Kit

A PCR diagnostic kit for the detection of *Ureaplasma urealyticum* and *Mycoplasma hominis* DNA isolated from clinical samples. The detection is based on a multiplex PCR. The PCR products are a fragment of the 16S rRNA gene of *U. urealyticum* (size: 517 bp) and a fragment of the 16S rRNA gene of *M. hominis* (size: 334 bp).

Microbial DNA detection kits (NESTED PCR)

Kit contents:

- 5 x reaction mixture for the first PCR (Master Mix PCR-OUT) for ten reactions
- 5 x reaction mixture for the second PCR (Master Mix PCR-IN) for ten reactions
- 10 x dNTPs solution for ten reactions
- Positive controls for ten reactions (packaged separately)
- Thermostable DNA polymerase (for 100 reactions)
- Molecular Weight DNA Ladder for twenty lanes

Anaplasma

A PCR diagnostic kit for the detection of *A. phagocytophilum* DNA isolated from ticks, blood, and cell cultures. PCR product sizes: 932 bp (first reaction) and 546 bp (second reaction).

Babesia

A PCR diagnostic kit for the detection of *Babesia* spp. and *Theileria* spp. DNA isolated from ticks, blood, and cell cultures. PCR product sizes: 1700 bp (first reaction) and 559 bp (second reaction).

Borrelia

A PCR diagnostic kit for the detection of *B. burgdorferi* sensu lato DNA isolated from ticks, blood, and cell cultures. The *B. burgdorferi* sensu lato group is comprised of at least 20 different species, e.g., *B. burgdorferi* sensu stricto, *B. garinii*, *B. afzelii*, *B. valaisiana*, *B. andresoni*, and *B. japonica*. PCR product sizes: 787 bp (first reaction) and 259 bp (second reaction).

Chlamydia pneumoniae

A PCR diagnostic kit for the detection of *C. pneumoniae* DNA isolated from blood samples and upper respiratory tract swabs. PCR product sizes: 424 bp (first reaction) and 147 bp (second reaction).

Chlamydia trachomatis

A PCR diagnostic kit for the detection of *C. trachomatis* DNA isolated from urine, blood samples, and cell cultures. PCR product sizes: 318 bp (first reaction) and 199 bp (second reaction).

CMV

A PCR diagnostic kit for the detection of human cytomegalovirus (hCMV) in blood and other clinical samples. PCR product sizes: 265 bp (first reaction) and 185 bp (second reaction).

Cryptosporidium parvum

A PCR diagnostic kit for the detection of *Cryptosporidium parvum* DNA isolated from stool, water or cell cultures. PCR product sizes: 361 bp (first reaction) and 199 bp (second reaction).

HBV

A PCR diagnostic kit for the detection of Hepatitis B virus (HBV) in blood and other clinical samples. PCR product sizes: 259 bp (first reaction) and 154 bp (second reaction).

HPV16

A PCR diagnostic kit for the detection of human papilloma virus (HPV) type 16 in blood and other clinical samples. PCR product sizes: 240 bp (first reaction) and 159 bp (second reaction).

Toxoplasma gondii

A PCR diagnostic kit for the detection of *Toxoplasma gondii* DNA. The PCR product is a fragment of a gene encoding a *T. gondii* antigen protein (size: 308 bp; re-amplification).

PCR MP Kit – a PCR diagnostic kit for the intraspecies differentiation of bacteria, lower eukaryotic organisms and yeast with the use of optimised and validated PCR Melting Profile (PCR MP) technique.

Kits for genotyping

Helicobacter pylori CAG

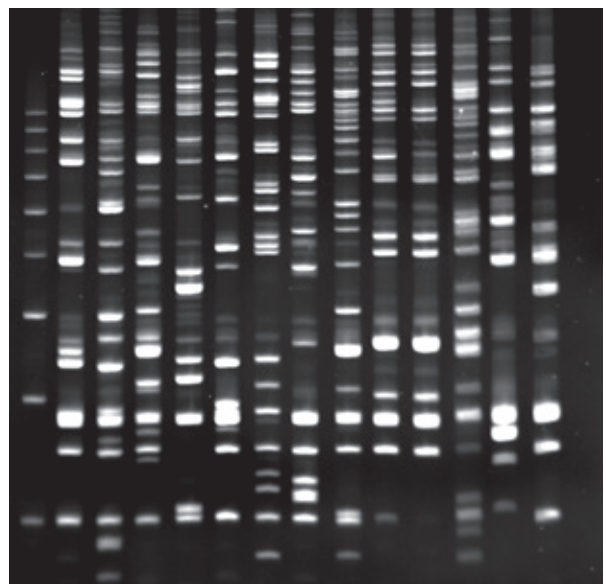
A PCR diagnostic kit for the detection of *H. pylori* and the determination of its cytotoxicity (*cag*⁺/*cag*⁻). The kit enables detection of *cag* pathogenicity islands (gene sequences, which are believed to be responsible for *H. pylori* cytotoxicity). The PCR products are a gene fragment encoding urease (*ureA*, 315 bp) and a gene fragment encoding cytotoxin (*cagA*, 444 bp).

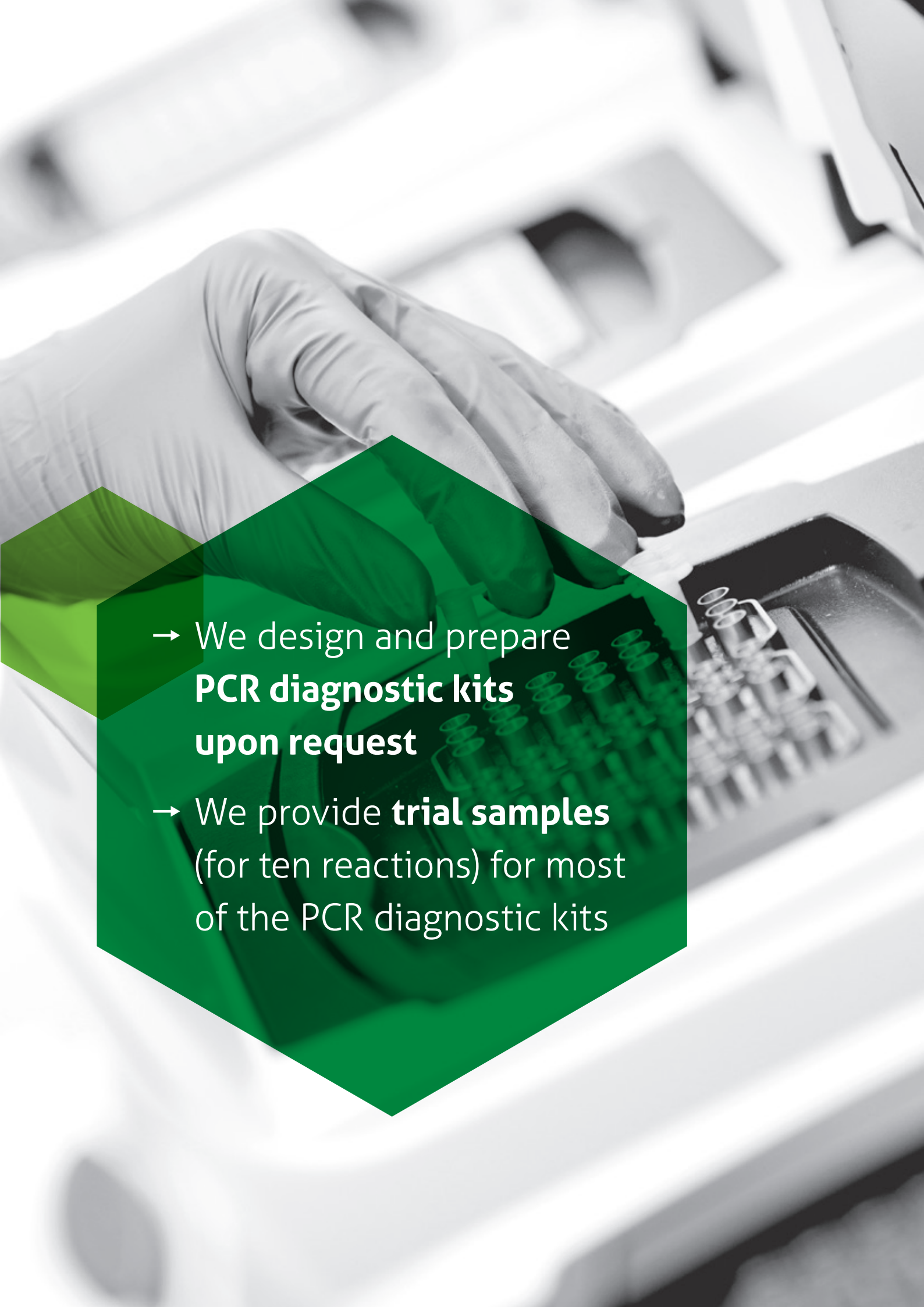
Staphylococcus aureus MRSA

A PCR diagnostic kit for the detection and identification of methicillin-resistant *S. aureus* (MRSA) and methicillin-sensitive *S. aureus* (MSSA) strains in clinical samples and cell cultures. PCR products: a nuclease gene fragment (*nuc*, 280 bp) and a methicillin-resistance gene fragment (*mecA*, 533 bp).

PCR MP Kit

A PCR diagnostic kit for the intraspecies differentiation of bacteria, lower eukaryotic organisms and yeast. Genomic DNA is digested with a restriction enzyme and the digestion products are ligated with adaptors. Intraspecies differentiation is based on differences in thermal stabilities (GC content) of the restriction fragments.



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- A close-up photograph of a person wearing a white nitrile glove, carefully handling a multi-well PCR diagnostic kit. The kit is a black tray containing numerous small, clear reaction wells. The background is a blurred laboratory environment with white equipment. A large, semi-transparent green hexagonal graphic is overlaid on the lower-left portion of the image, containing white text.
- We design and prepare **PCR diagnostic kits upon request**
 - We provide **trial samples** (for ten reactions) for most of the PCR diagnostic kits



Blirt S.A., DNA-Gdańsk

Trzy Lipy 3/1.38, 80-172 Gdańsk, Poland
www.dnagdansk.com | info@dnagdansk.com
T: +48 58 739 61 50 | F: +48 58 739 61 51