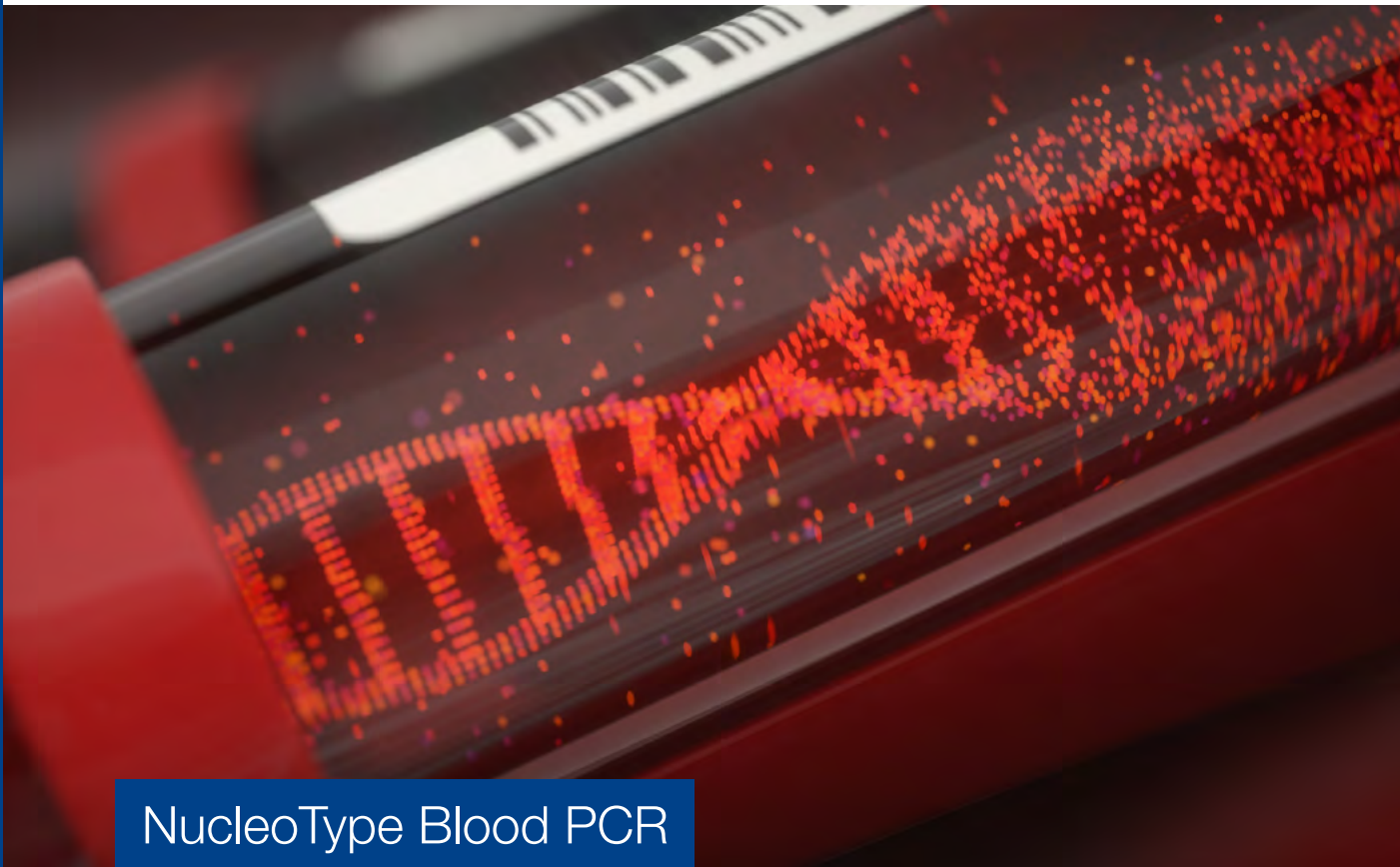


MACHEREY-NAGEL

# Direct PCR from human and animal blood samples

Bioanalysis



## NucleoType Blood PCR

- Direct blood handling with the Blood Transfer Tool
- Inhibitor Removal Pearls for superior PCR results
- Designed for human and animal blood samples

**MACHEREY-NAGEL**

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# Fast genotyping from blood samples

## NucleoType Blood PCR

Simplify your blood genotyping workflow

The NucleoType Blood PCR kit is designed for rapid blood typing using whole blood (treated with EDTA, citrate, or heparin as anticoagulant) and blood dried on blood cards as sample material, without the need to purify DNA from blood. The novel Blood Transfer Tool enables easy and fast transfer of blood sample aliquots into the PCR mix. Challenging blood sample types e.g., rabbit, mouse, rat, or chicken can easily be processed by addition of an Inhibitor Removal Pearl (provided in the kit) to the blood sample. No special step for lysis, disruption, or dilution of blood samples is required. The NucleoType HotStart PCR Master Mix (2x) enables a fast PCR (30–90 min) and contains a red dye for direct loading onto agarose gels.

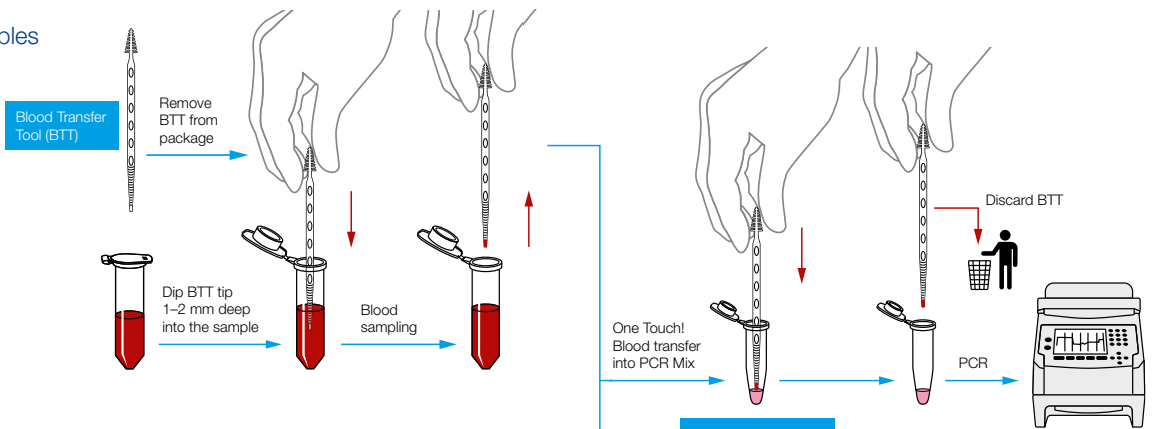
### Product at a glance

Technology	Direct HotStart PCR for blood sample material
Procedure	Pretreatment of blood with 1 Inhibitor Removal Pearl for 50–500 µL blood (optional) and transfer of blood aliquot with the Blood Transfer Tool into PCR mix
Sample material	Whole blood from e.g., human, mouse, rat, cat, chicken, rabbit, guinea pig, sheep, or cow treated with EDTA, citrate, or heparin. Punches from blood storage cards (e.g., NucleoCard® or FTA).
Preparation time	Preparation per sample: < 1 min; PCR cycling: 30–90 min (cyclers and target size dependent)
Format	10 µL PCR (optional up to 50 µL)

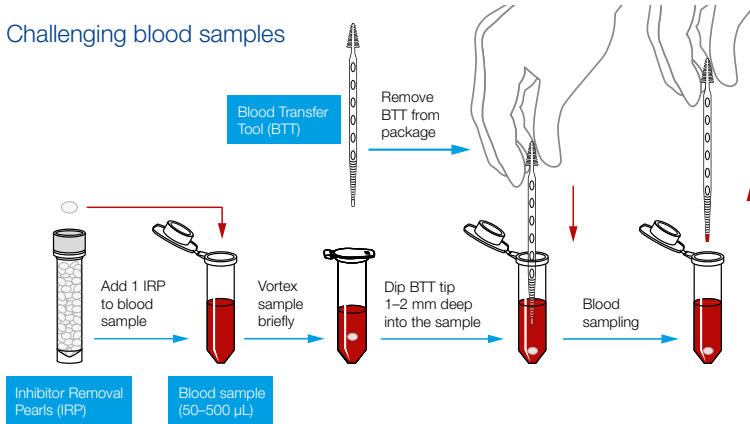
Blood Transfer Tool and Inhibitor Removal Pearls included

### Procedure

#### Common blood samples



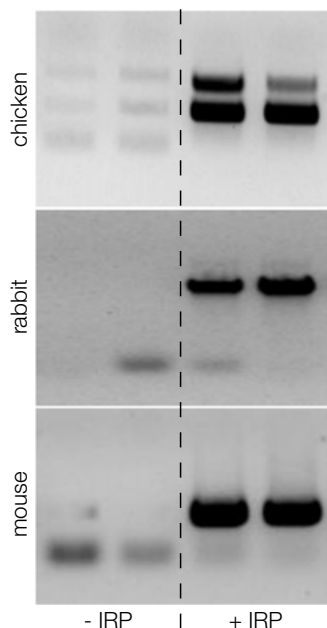
#### Challenging blood samples



For challenging blood samples with high amount of PCR Inhibitors, the usage of Inhibitor Removal Pearls (IRP) is recommended.

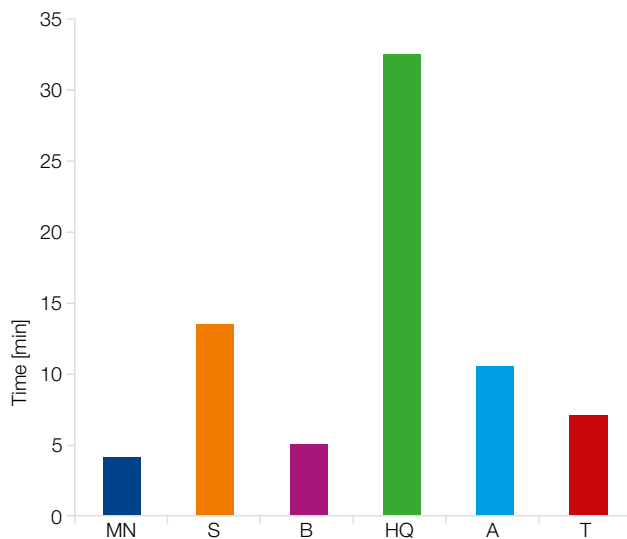
# Fast genotyping from blood samples

## Application data



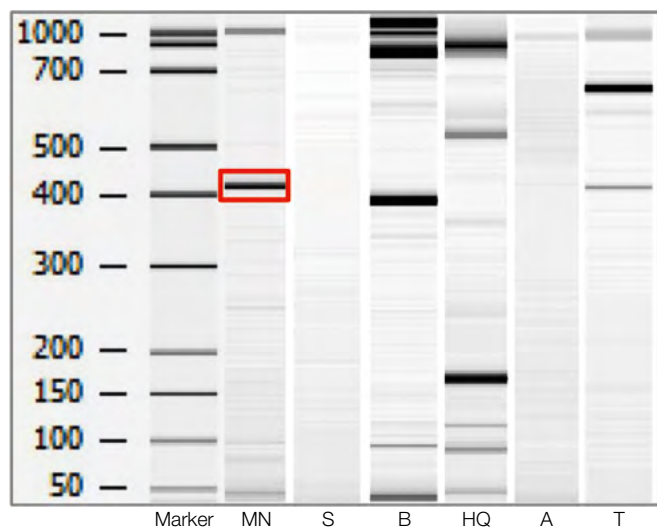
### Excellent PCR results by using Inhibitor Removal Pearls (IRP)

Challenging blood samples derived from chicken, rabbit and mouse, were processed with the NucleoType Blood PCR kit without Inhibitor Removal Pearls (-IRP) and pretreated with one Inhibitor Removal Pearl (+IRP). The data demonstrates, that a short mixing of blood sample and IRP followed by approx. 15 seconds incubation is sufficient to improve the subsequent PCR analysis significantly.



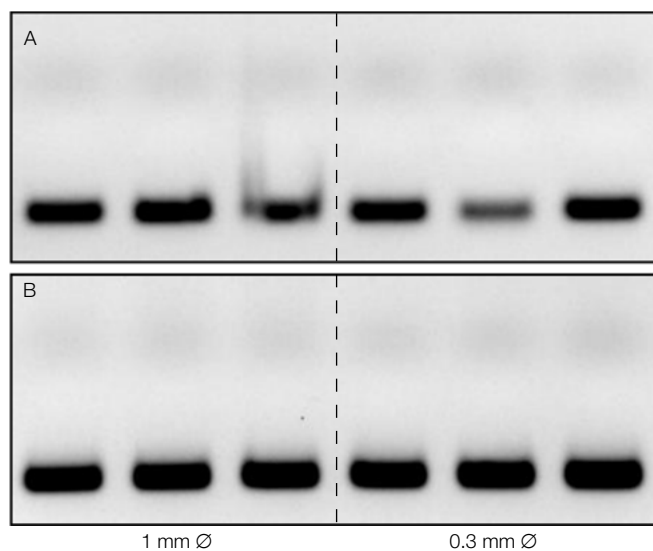
### Reliable and fast sample preparation

PCR mix and blood sample preparation was performed according to manufacturer's recommendations and processing time (n=6 samples) was measured. Quick blood pretreatment with Inhibitor Removal Pearls and transfer of blood aliquots to the PCR mix using the Blood Transfer Tools enables a fast sample preparation. There is no need for time consuming blood dilution/lysis (S, HQ) or sample cooling (A, HQ). Post-amplification analysis can be performed without a centrifugation or addition of loading dye (S, A, T).



### Highly specific amplification with the NucleoType Blood PCR kit

The NucleoType Blood PCR kit (MN) was used to analyze a challenging blood sample, such as chicken blood in comparison to diverse competitor kits (S, B, HQ, A, T) processed according to manufacturer's recommendations. PCR was performed by amplification of a 415 bp fragment (see red square). The Bioanalyzer results demonstrate a higher specificity with less undesired amplifications in comparison to the competitor kits.



### Successful amplification of DNA from blood sample storage cards

11 year old human blood spots preserved onto the (A) IsoCode card (today marketed as Whatman™ FTA™ Elute card) and the (B) NucleoCard® from MACHEREY-NAGEL were used for direct PCR analysis with the NucleoType Blood PCR kit. Discs from blood spots on the storage cards with a diameter of 0.3 mm and 1 mm were punched out and directly transferred into the prepared PCR mix with a final volume of 20 µL. With the NucleoType Blood PCR kit, DNA stored on both archived storage cards can be directly amplified from blood spots

# Fast genotyping from blood samples

## Ordering information

Product	Specifications	Preps	REF
NucleoType Blood PCR*	Inhibitor Removal Pearls and Blood Transfer Tool for convenient and rapid blood typing; NucleoType HotStart PCR Master Mix (2x) containing polymerase, dNTPs, buffer, enhancer, loading dye and stabilizer	25 / 100 / 500	743201.25 / .100 / .500

### Related products

NucleoCard®**	Blood sample storage card	10 / 100 cards	740403.10 / .100
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\* Kits to be used for research purposes only

\*\* NucleoCard® cards are not intended for diagnostic and therapeutic use; DISTRIBUTION AND USE IN USA IS PROHIBITED FOR PATENT REASONS

FTA, and Whatman are trademarks of General Electric Company.  
NucleoCard is a registered trademark of MACHEREY-NAGEL.



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