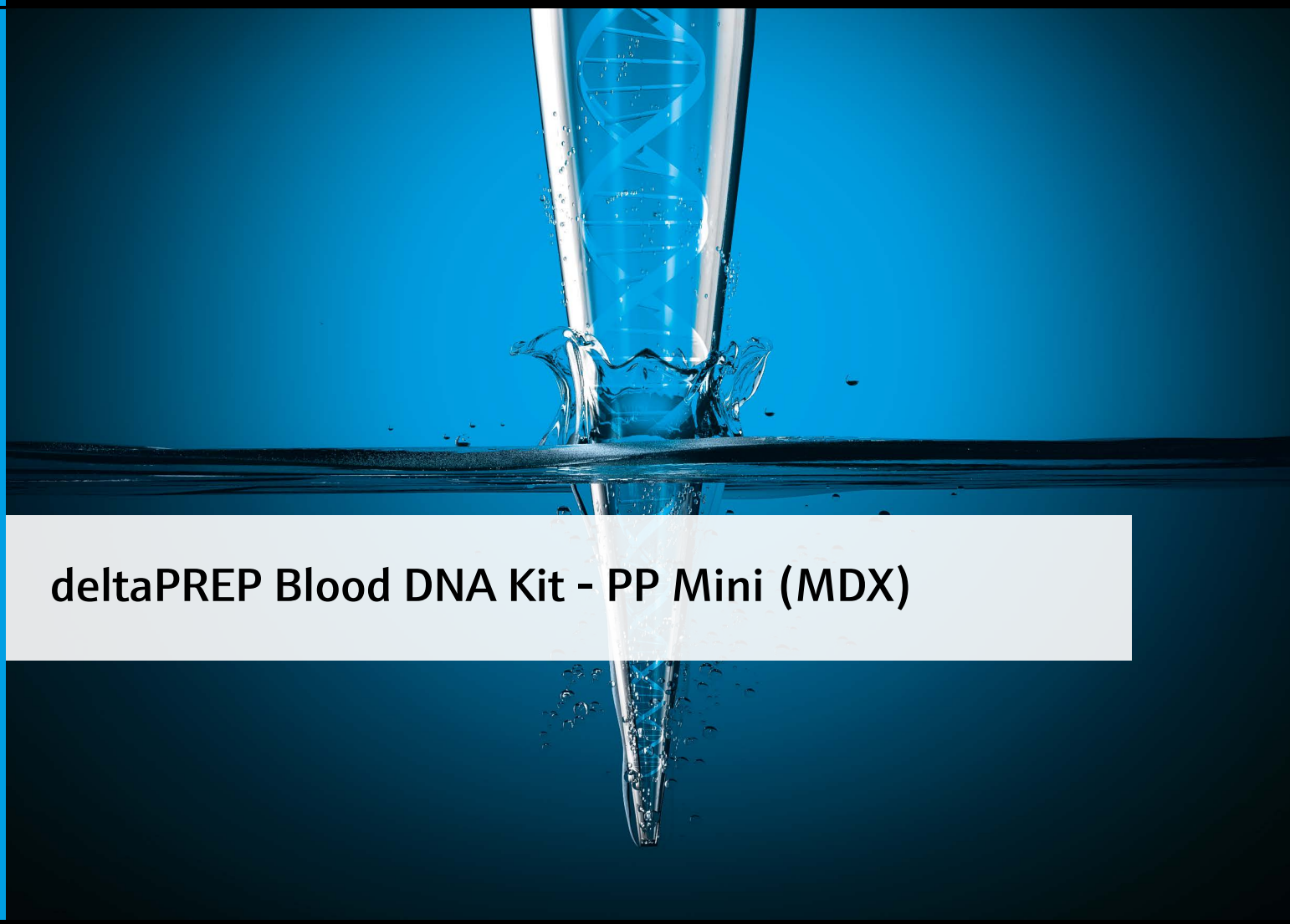
Instructions for Use
Life Science Kits & Assays



deltaPREP Blood DNA Kit - PP Mini (MDX)

Innuscreen
innovative
Sensor
Technology

Order No.:

31-DP-6000016	16 reactions
31-DP-6000096	96 reactions
31-DP-7000016	16 reactions
31-DP-7000096	96 reactions

CE IVD

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This documentation describes the state at the time of publishing.
It needs not necessarily agree with future versions. Subject to change!

Manufacturer and Distributor:
IST Innuscreen GmbH
Robert-Rºssle-StraÇe 10
13125 Berlin â Germany
Made in Germany!

Phone +49 30 9489 3380
Fax +49 30 9489 3381
info.innu@ist-ag.com

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1 Introduction

1.1 Intended use

The **deltaPREP Blood DNA Kit – PP Mini (MDX)** has been designed for the automated isolation of genomic DNA from whole blood on the PurePrep Mini device. The extraction procedure is based on a new kind of chemistry.

The Reagent Plate / Strip of the kit is prefilled with almost all extraction reagents which are needed for the extraction process. After addition of the whole blood sample and the Proteinase K, the extraction procedure begins with sample lysis. In between the device stops and MAG Suspension F and Binding Solution SBS must be added to the lysed sample. Afterwards Reagent Plate / Strip must be put back to the device and the automated extraction is followed by binding of DNA to surface-modified magnetic particles. After washing steps, the DNA is eluted from the magnetic particles with Elution Buffer and is now ready to use for downstream applications.

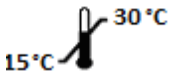
The extraction procedure takes place on the magnetic particle processor PurePrep Mini and allows the parallel and flexible extraction of 1 up to 16 samples.

The kit is intended for use by professional users. The DNA extracted using this kit is suitable for a wide range of downstream applications, such as amplification reactions and further analytical procedures. Diagnostic results generated using the extraction procedure in conjunction with diagnostic tests should be interpreted regarding other clinical or laboratory results. To reduce irregularities in diagnostic results, appropriate controls for downstream applications should be used.

CONSULT INSTRUCTION FOR USE
This package insert must be read carefully before use. Package insert instructions must be followed accordingly. Reliability of results cannot be guaranteed if there are any deviations from the instructions in this package insert.

1.2 Notes on the use of this manual and the kit

For easy reference and orientation, the manual and labels use the following warning and information symbols as well as the shown methodology:

Symbol	Information
	**REF** Catalogue number.
	**Content** Contains sufficient reagents for <N> reactions.
	**Storage conditions** Store at room temperature or shown conditions respectively.
	**Consult instructions for use** This information must be observed to avoid improper use of the kit and the kit components.
	**Expiry date**
	**Lot number** The number of the kit charge.
	**CE-IVD symbol** in-vitro diagnostic medical device.
	**Manufactured by** Contact information of manufacturer.
	**For single use only** Do not use components for a second time.
	Note / Attention Observe the notes marked in this way to ensure correct function of the kit and to avoid operating errors for obtaining correct results.

The following systematic approach is introduced in the manual:

- The chapters and figures are numbered consecutively.
- A cross reference is indicated with an arrow (e.g. → „Notes on the use of this manual and the kit“ p. 3).
- Working steps are numbered.

2 Safety precautions

NOTE
Read through this chapter carefully before use to guarantee your own safety and a trouble-free operation.
Follow all the safety instructions explained in the manual, as well as all messages and information, which are shown.

All due care and attention should be exercised in handling the materials and reagents contained in the kit. Always wear gloves while handling these reagents and avoid any skin contact! In case of contact, flush eyes or skin with a large amount of water immediately.

FOR SINGLE USE ONLY!
This kit is made for single use only!

ATTENTION!
Don’t eat or drink components of the kit!
The kit shall only be handled by educated personnel in a laboratory environment!

If the buffer bottles are damaged or leaking, wear gloves and protective goggles when discarding the bottles in order to avoid any injuries. This kit could be used with potential infectious samples. Therefore, all liquid waste must be considered as potentially infectious and must be handled and discarded according to local safety regulation.

Please observe the federal, state and local safety and environmental regulations. Follow the usual precautions for applications using extracted nucleic acids. All materials and reagents used for DNA or RNA isolation should be free of DNases or RNases.

ATTENTION!
Do not add bleach or acidic components to the waste after sample preparation!

NOTE

Emergency medical information in English and German can be obtained 24 hours a day from:

Poison Information Center, Freiburg / Germany

Phone: +49 (0)761 19 240.

For more information on GHS classification and the Safety Data Sheet (SDS) please contact sds.innu@ist-ag.com.

3 Storage conditions

All kit components are shipped at ambient temperature.

Upon arrival, store lyophilized and dissolved **Proteinase K and MAG Suspension F** at 4 °C to 8 °C.

All other components of the kit should be stored dry at room temperature (15 °C to 30 °C). When stored at room temperature, the kit is stable until the expiration date printed on the label on the kit box.

If there are any precipitates within the provided solutions solve these precipitates by careful warming. Before every use make sure that all components have room temperature.

4 Functional testing and technical assistance

The IST Innuscreen GmbH guarantees the correct function of the kit for applications as described in the manual. This product has been produced and tested in an ISO 13485 certified facility.

We reserve the right to change or modify our products to enhance their performance and design. If you have any questions or problems regarding any aspects of the **deltaPREP Blood DNA Kit – PP Mini (MDX)**, please do not hesitate to contact us. For technical support or further information in Germany please contact info.innu@ist.com.

5 Product use and warranty

The kit is not designed for the usage of other starting materials or other amounts of starting materials than those, referred to in the manual (→ “Product specifications“ p. 9). Since the performance characteristics of IST Innuscreen GmbH kits have just been validated for the application described above, the user is responsible for the validation of the performance of IST Innuscreen GmbH kits using other protocols than those described below. IST Innuscreen GmbH kits may be used in clinical diagnostic laboratory systems after the laboratory has validated the complete diagnostic system as required by CLIA’ 88 regulations in the U.S. or equivalents in other countries.

All products sold by IST Innuscreen GmbH are subjected to extensive quality control procedures and are warranted to perform as described when used correctly. Any problems should be reported immediately.

NOTE

The kit is an in-vitro diagnostic medical product! CE IVD

6 Performance and Product use limitations

The IST Innuscreen GmbH guarantees the correct function of the kit for applications as described in the manual. This product has been produced and tested in an ISO 13485 certified facility.

The kit is designed for isolation of DNA from whole blood samples exclusively. The performance of the kit in isolating and purifying genomic nucleic acids from other body fluids, such as urine and cerebrospinal fluid, has not been evaluated. When changing the starting material, no guarantee in operability is issued.

Genomic DNA is eluted in Elution Buffer and is ready to use for different downstream applications or storage at -22 °C to -18 °C. For long-term storage -80 °C is recommended.

6.1 Specificity

The specificity of detection of genomic DNA in downstream applications depends on the detection system and detection device.

6.2 Sensitivity

The sensitivity of detection of genomic DNA depends in downstream applications on the amount of DNA in the starting sample volume, on the volume of sample and of inhibitors in the human whole blood sample corresponding with the detection system.

The amount of isolated genomic DNA depends on the sample type (EDTA, or citrate stabilized), sample transport, storage and age.

As yield may vary, quantitative Real-time PCR is recommended for determination of DNA concentration.

7 Kit components

7.1 Components included in the kit

	Σ 16	Σ 96
REF	31-DP-6000016 [a] 31-DP-7000016 [b]	31-DP-6000096 [a] 31-DP-7000096 [b]
MAG Suspension F	0.25 ml	1.1 ml
Proteinase K	2 x for 0.3 ml working solution	2 x for 1.5 ml working solution
Binding Solution SBS	8 ml	30 ml
Reagent Plate A (PP) [a]	1	6
Reagent Strip A (PP) [b]	16	96
Tip Combs [a]	2	12
Tip Combs [b]	4	24
Manual	1	1

7.2 Components not included in the kit

- ddH_2O; ultrapure for dissolving Proteinase K
- optional further Tip Combs (12 pcs)(31-01888, IST Innuscreen)

8 Product specifications

1. Starting material:

- Whole blood samples (200 µl)
- Fresh or frozen whole blood samples
- Stabilized with EDTA or Citrate

2. Time for automated extraction protocol on PurePrep Mini:

- Approx. 58 minutes

9 Initial steps before starting

- Add the indicated volume of ddH_2O to each vial of **Proteinase K**, mix thoroughly and store as described above.

31-DP-6000016 31-DP-7000016	Add 0.3 ml ddH_2O to lyophilized Proteinase K.
31-DP-6000096 31-DP-7000096	Add 1.5 ml ddH_2O to lyophilized Proteinase K.

10 Preparing Reagent Plate / Strip for automated extraction

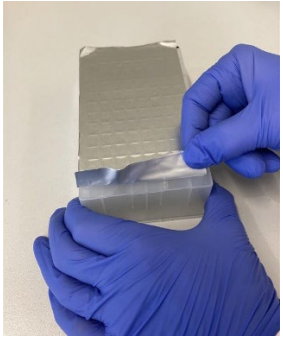
10.1 General filling scheme of the reagents (already prefilled)

Cavity of DW Plate/Strip	Content
Cavity 1/ Cavity 7	300 µl Lysis Solution CBV (2x)
Cavity 2/ Cavity 8	800 µl Washing Solution A
Cavity 3/ Cavity 9	800 µl Washing Solution B2
Cavity 4/ Cavity 10	800 µl Washing Solution B2
Cavity 5/ Cavity 11	empty
Cavity 6 /Cavity 12	200 µl Elution Buffer

10.2 Unpacking of Reagent Plate and peeling off the sealing foil

Reagent Plates and Reagent Strips are delivered wrapped into plastic bags for transport protection when shipped across Germany.

Carefully open the overpack of Reagent Plates/Strips by using scissors.



Afterwards gently remove the foil by peeling it off.

Make sure to hold the plate and strips tight while peeling the foil off.

11 Sample Preparation

11.1 Isolation from 200 µl whole blood samples

1. Add **200 µl of the whole blood sample** and **20 µl Proteinase K** into the first and or into the seventh well of the Deep Well Plate and into the first well of Strip.

NOTE

If the volume of the blood sample is less than 200 µl adjust with PBS to 200 µl.

2. Proceed with “Automated extraction using PurePrep Mini” on p.12.

12 Automated extraction using PurePrep Mini

12.1 Prefilled DW Plate or the DW Strips

	1	2	3	4	5	6	7	8	9	10	11	12
A	Sample 1	→	→	→	→	Eluate 1	Sample 9	→	→	→	→	Eluate 9
B	Sample 2	→	→	→	→	Eluate 2	Sample 10	→	→	→	→	Eluate 10
C	Sample 3	→	→	→	→	Eluate 3	Sample 11	→	→	→	→	Eluate 11
D	Sample 4	→	→	→	→	Eluate 4	Sample 12	→	→	→	→	Eluate 12
E	Sample 5	→	→	→	→	Eluate 5	Sample 13	→	→	→	→	Eluate 13
F	Sample 6	→	→	→	→	Eluate 6	Sample 14	→	→	→	→	Eluate 14
G	Sample 7	→	→	→	→	Eluate 7	Sample 15	→	→	→	→	Eluate 15
H	Sample 8	→	→	→	→	Eluate 8	Sample 16	→	→	→	→	Eluate 16

Fig. 1: Schematic illustration of DW Plate

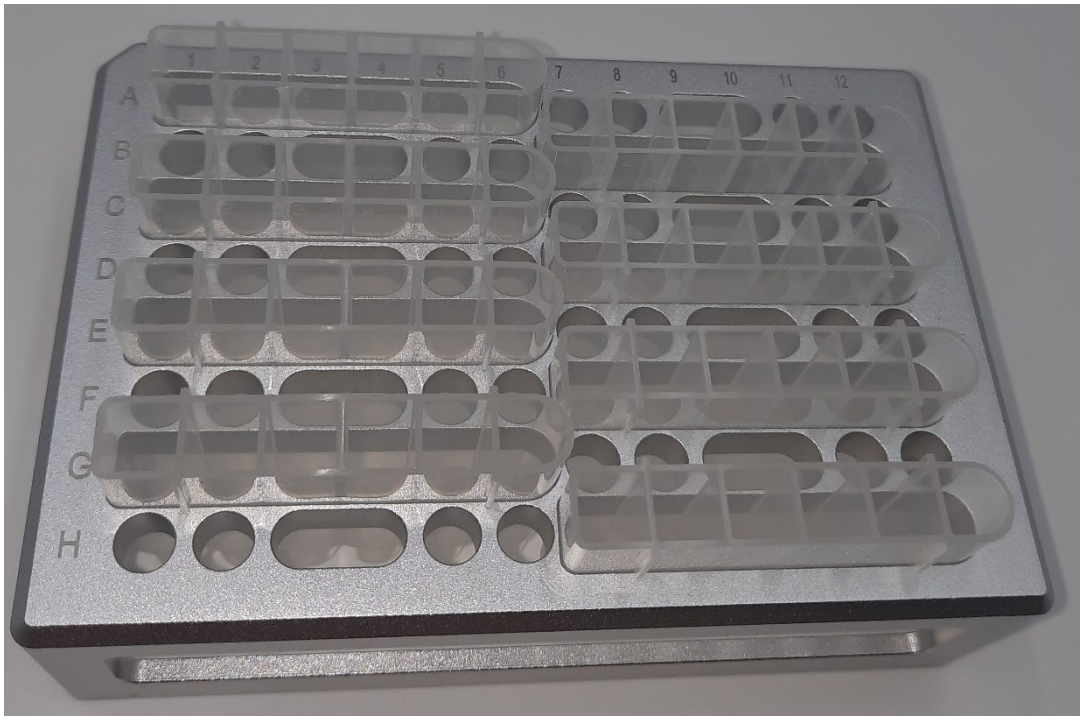


Fig. 2: Arrangement of the DW Strips in Tray

12.2 Loading filled Deep Well Plate/Strips to the PurePrep Mini and plug in the Tip Combs

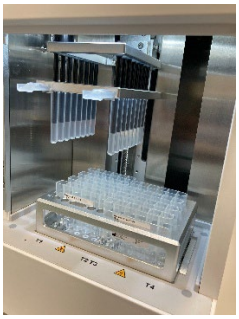
NOTE

- When using strip (strips), the strip is inserted into the tray. In total, a maximum of 8 strips can be used in one extraction-run.
- When working with strips, only every second tip is being used for extraction:

  Left tray side: Tip 1, 3, 5, 7

  Right tray side: Tip 2, 4, 6, 8.
- It is recommended to mark the tips used for the extraction so that they are not used more than once

1. Place the Plate and Strips inserted in the Holder (tray) into the PupePrep Mini with the label facing outward.
2. Insert the tip comb in the tip comb holder.

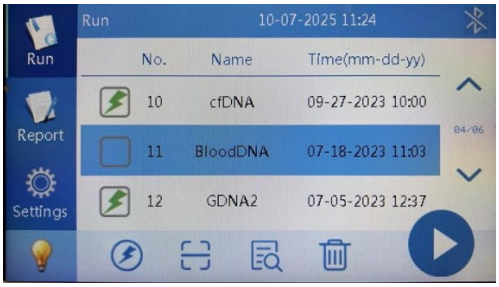


Reagent Strips

Reagent Plate

3. Select the protocol

   “BLOODDNA” and start the run.



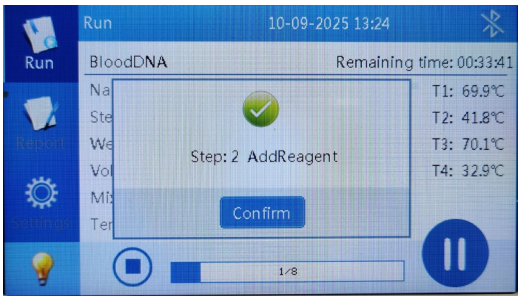
4. The automated extraction process starts with sample lysis. After sample lysis the automated run stops.

5. After the device has stopped, take the Plate/Strip out of the device and add **5 µl** of well mixed **MAG Suspension F** and **285 µl** of **Binding Solution SBS** to the lysed samples in cavity 1 and/or 7.

NOTE

Mix the **MAG Solution F** well by vortexing for 1 minute.

6. After addition of MAG Suspension F and Binding Solution SBS, place the Plate/Strip back into the PurePrep Mini and continue the extraction process by starting the device via the display by pressing the “confirm” button. Instructions will be shown on the PurePrep Mini screen.



7. After finishing the extraction protocol, the Cavities 6 and 12 contain the isolated DNA.

8. Transfer the DNA into a fresh 1.5 ml Tube.

IMPORTANT NOTE

After finishing the extraction protocol, cavities 6 and 12 contain the isolated DNA. Store the DNA under adequate conditions.

We recommend storing the extracted DNA for longer use at −22 °C to −18 °C.

13 Troubleshooting

Problem / probable cause	Comments and suggestions
Low amount of extracted DNA	
NO extracted DNA	No Magnetic beads or no Binding Solution SBS are added to cavity 1 and/or 7 after Lysis step. Ensure MAG Suspension F has been mixed well before use.
Insufficient lysis of starting material	Ensure that Proteinase K is added in the Cavity 1 and /or in the Cavity 7
Inadequate extraction	Inhibiting substances in starting material. Please use the kit only for samples that match the requirements declared in “Product specifications”. Use internal controls for verification of extraction procedure
Carryover of magnetic beads	
Eluate contains carryover of magnetic particles	Place the reagent plate/strips on a magnet or centrifuge at maximum speed for 3 minutes. Then, Pipet the supernatant with DNA into a new plate or Elution vessels.

iST Innuscreen GmbH
Robert-Rössle-Str.10
13125 Berlin · Germany

Phone +49 30 9489 3380
Fax +49 30 9489 3381

info.innu@ist-ag.com

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