



RUO

Research Use
Only Products

A black and white photograph of a laboratory setting. In the foreground, a multi-channel pipette is shown dispensing liquid into a 96-well plate. The pipette has multiple tips, and the liquid is being dispensed into the wells. The background is slightly blurred, showing other laboratory equipment.

***WE DEFEND YOUR DNA/RNA
DURING SAMPLE COLLECTION,
TRANSPORT & STORAGE.***

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Research Use Only **RUO**

- for molecular research labs, veterinary labs, food/feed testing labs, ...
- product characteristics are based on experimental evidence and reliable feedback from third parties
- application in a specific test system should be validated / tested by the customer



viruses
bacteria
fungi




viruses
some bacteria

NFW™



- nuclease-free water
- per lot tested for absence of RNases/ DNases, sterility, endotoxins and pH
- available in small tubes and bigger PET bottles

DRD™



- for long term RNA/DNA stability
- strong lysis buffer
- contains guanidine thiocyanate

DD™



- DNA stabilizing
- lysis buffer
- extraction-free PCR
- suitable for Salmonella, Listeria

DRDPT™



- DNA/RNA stabilizing
- mild lysis buffer, less impact on cell integrity
- extraction-free PCR
- preserves antigens

viruses
some bacteria



viruses
some bacteria



specialized in the development and commercialization of collection, transport and storage solutions for primary biomaterials for (in vitro diagnostic) testing on DNA, RNA, and protein epitopes

founded in 2020

BY
FertiPro NV
Prof. Jo Vandesompele

LOCATED
Industriepark Oost 2a,
8730 Beernem, Belgium



location east

**CLOSE COLLABORATION
WITH FERTIPRO NV**

+ 30 years experience
with liquid media
manufacturing,
quality controls and
regulatory compliance

ISO 13485 certified,
conform EU IVDR / EU MDR
and other industry standards



location north



DRD Blood™

With the growing demand for blood-based gene expression analysis in research and clinical studies, ensuring RNA integrity in blood samples is more important than ever. DRD Blood™ is a solution designed to preserve RNA at the highest quality levels – bringing you robust data you can trust.

*For more information,
please visit our website*



product performance

- ✎ whole blood RNA stabilization
 - 5 mL vacuum tube prefilled with 3 mL buffer for collection of 1 mL venous blood
 - 0.5 mL microtube prefilled with 150 µL buffer for collection of 50 µL capillary blood
- ✎ RNA stability for 30 days at 4 °C and 3 days at 25 °C
- ✎ RNA integrity for 3 days at 4 °C and 1 day at 25 °C
- ✎ Whole Blood RNA Extraction RMA101 (Vazyme)
- ✎ freeze-thaw stability and integrity for at least 5 cycles
- ✎ superior stability, ease of use, and cost-efficiency compared to alternative products on the market
- ✎ compatible RNA extraction
 - miRNeasy Micro (Qiagen)
 - NucleoMag RNA Blood (Macherey-Nagel)
 - MagMax Mirvana Total RNA (Thermo Fisher)

other

- ✎ quality controls on each produced batch:
 - chemical composition review
 - appearance
 - RT-qPCR to demonstrate RNA stability in blood
- ✎ MSDS on website
- ✎ COA per batch available on request

Product codes

DRD Blood™ venous blood (3 mL)
(50 or 1200 pcs)

REF: DRDB_1

DRD Blood™ capillary blood (150 µL)
(36 pcs)

REF: DRDB_2

Excellent freeze-thaw stability

Venous blood (1 mL) from a healthy human donor was drawn in a DRD Blood tube and frozen at -20 °C. Over a three-week period, the blood was thawed to room temperature and frozen again, for up to 5 times. The electropherogram shows intact 18S and 28S ribosomal RNA bands with good RNA integrity (RIN) values.

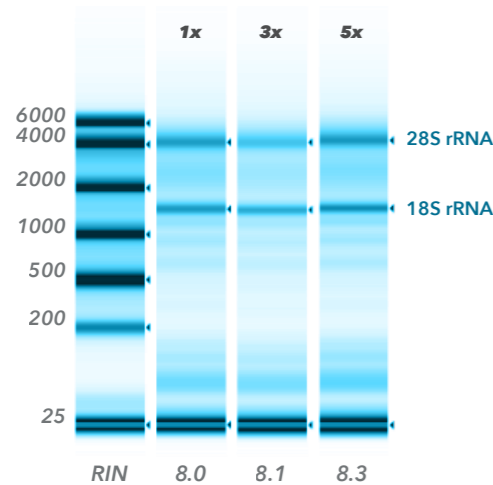


Figure 1: TapeStation electropherogram of total RNA purified from DRD Blood frozen at -20 °C and thawed up to 5 times over three weeks.

RNA remains intact in the fridge for 2 weeks

Venous blood (1 mL) from a healthy human donor was drawn in a DRD Blood tube and stored at 4 °C for up to 2 weeks. At time point 0 and days 1, 3, 7, and 14, an aliquot of 200 µL stabilized blood was extracted (miRNeasy Micro). The electropherogram shows intact 18S and 28S ribosomal RNA bands with good RNA integrity (RIN) values.

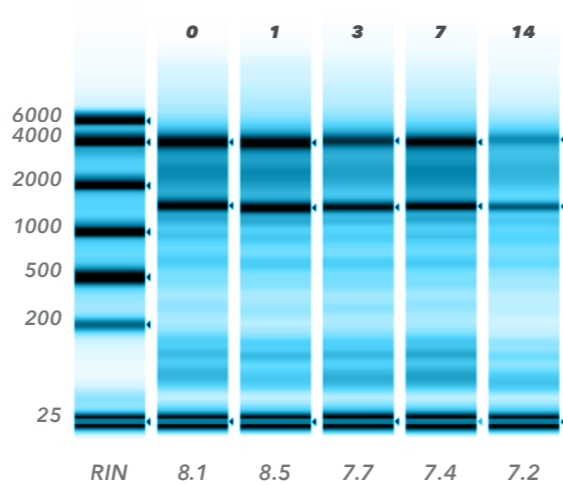
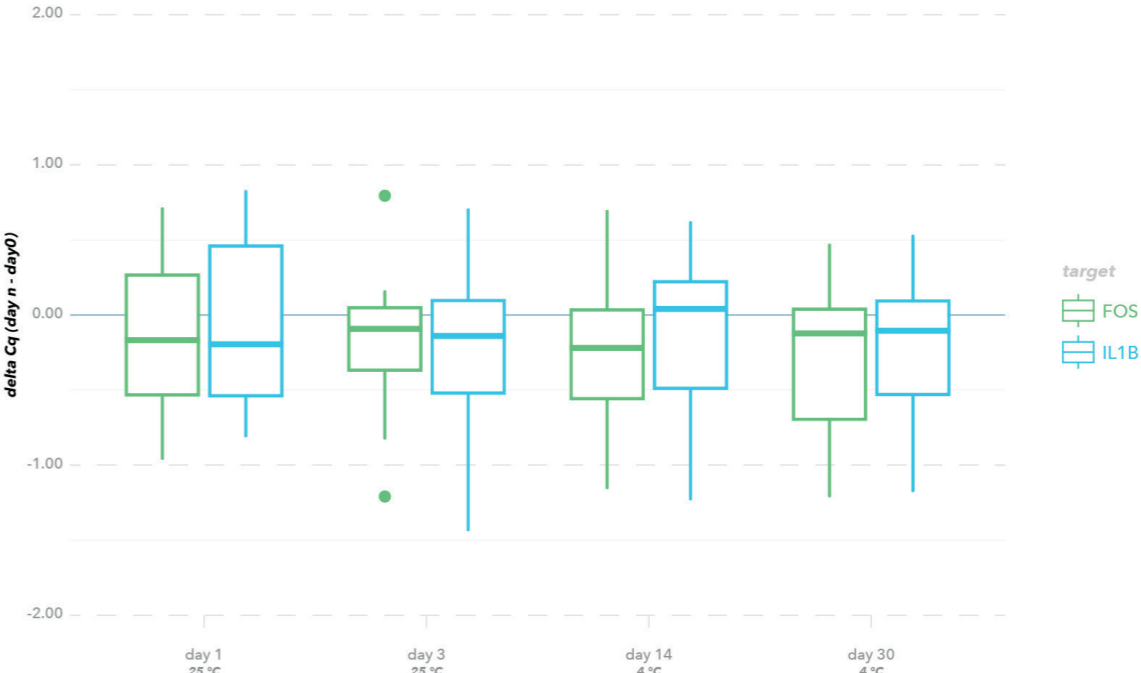
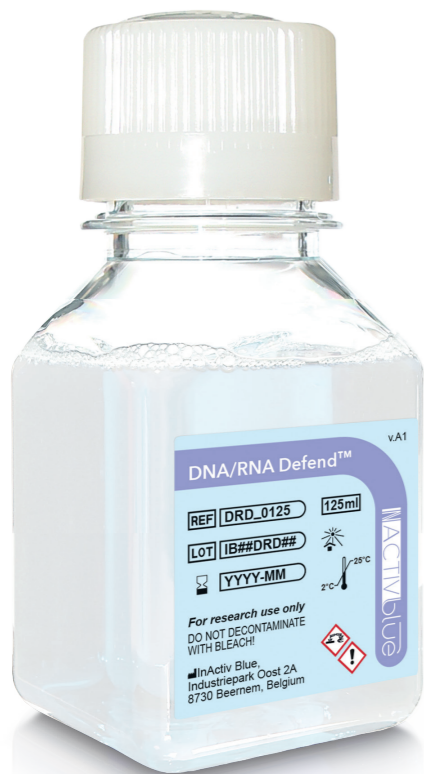


Figure 2: TapeStation electropherogram of total RNA purified from DRD Blood stored at 4 °C for up to 14 days.

Expression stability of FOS and IL1B marker transcripts



FOS and IL1B are well-known transcripts in human blood that quickly change their abundance upon stress or perturbation. This figure demonstrates that their expression levels remain stable in DRD Blood collection tubes for up to 30 days at 4 °C and 3 days at 25 °C. This is an exceptional RNA stability result, considering raw data with 5 levels of potential variability, i.e. donor (n=3), DRD Blood production lot number (n=3), RNA extraction (n=1), RT-qPCR (n=2), and experiment (n=2). Each box plot represents 18 independent data points. The median delta-Cq is 0.33, the 95% delta-Cq is 1.08 (comparing a later time point with time point 0).



DNA/RNA Defend™

a guanidine-based medium for pathogen inactivation, stabilization of DNA and RNA, and lysis of biological samples. Requires nucleic acid extraction.

DNA/RNA Defend™ (DRD) is a cost-effective and superior alternative to similar buffers on the market.

*For more information,
please visit our website*



strongly recommended to first test the sample type / protocol of interest with DRD™

the instructions for use provides several suggested methods
for testing for suitability in your system

product performance

- ✍ the same medium as CE-IVDR InActiv Blue® but without the blue dye and filled in a PETG bottle
- ✍ the uses of RUO DRD™ are broader
- ✍ strong lysis buffer
- ✍ strong pathogen inactivation which makes your sample safe

other

- ✍ quality controls on each produced batch:
 - chemical composition review
 - appearance
 - other quality controls on request
- ✍ MSDS on website
- ✍ COA per batch available on request

Product codes

DNA/RNA Defend™ - PETG bottle

30 mL
125 mL
500 mL
1000 mL

REF:

DRD_0030
DRD_0125
DRD_0500
DRD_1000

DNA/RNA Defend™ - (Micro) tubes

200 µL to 1.5 mL

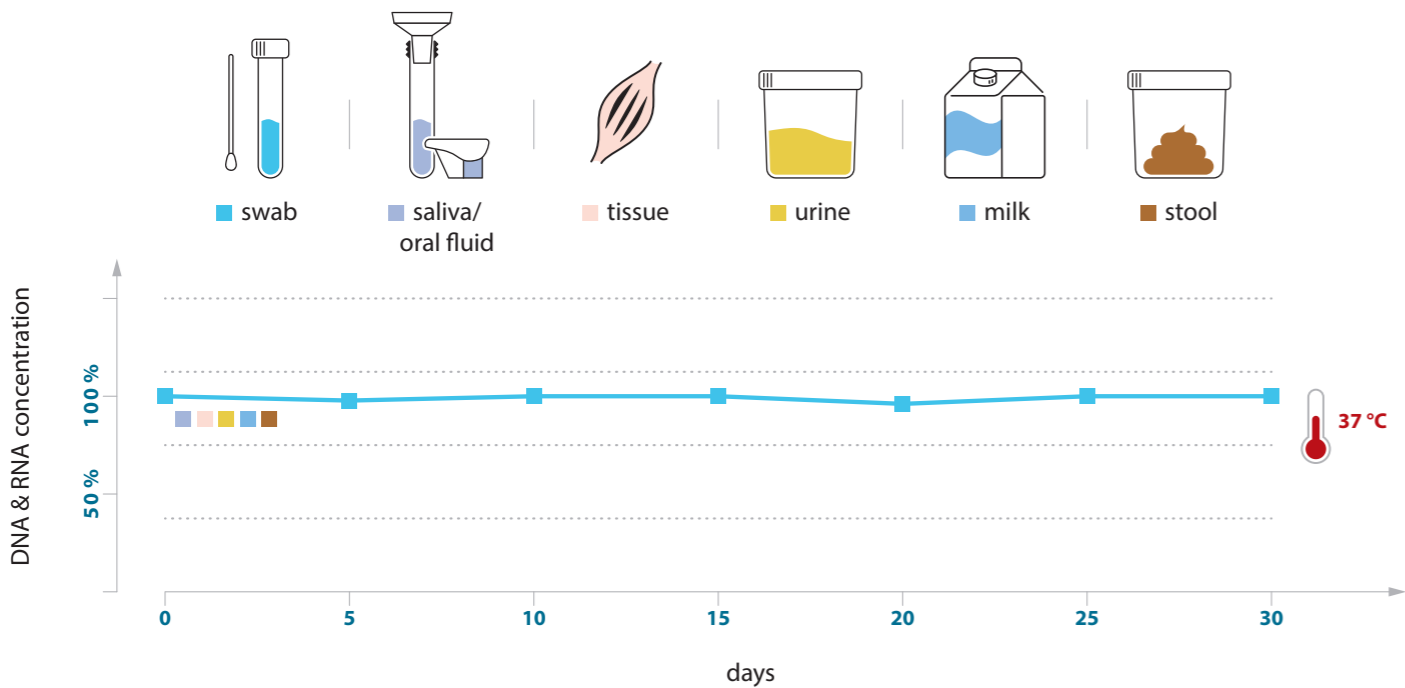
REF:

on demand

other volumes on request

Broad range of sample types

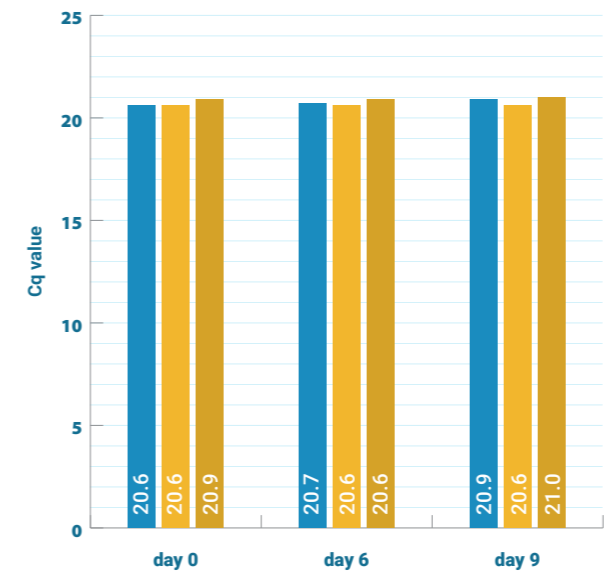
Evidence for effective nucleic acid preservation:



overview of inactivation performance data

complete inactivation

<i>P. aeruginosa</i> (G-)	<i>S. pneumoniae</i> (G+)	H5N1	mpox
SARS-CoV-2	vaccinia	MERS-CoV	bRSV
<i>E. coli</i> (G-)	<i>S. aureus</i> (G+)	<i>M. smegmatis</i> (G+)	<i>C. albicans</i>

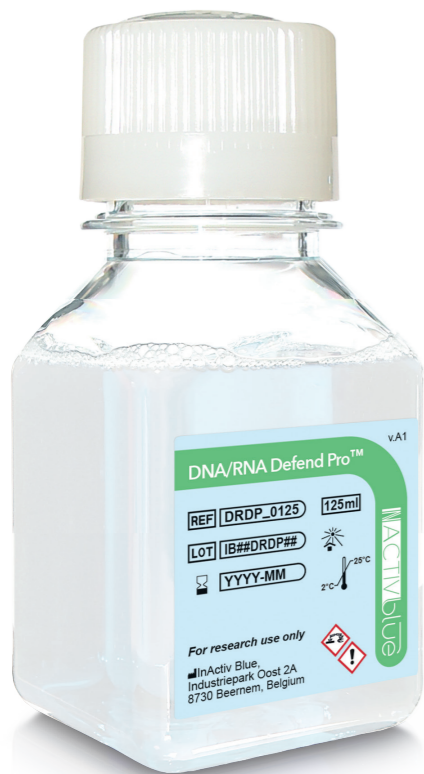


excellent RNA stability in urine (25 °C and 37 °C)

RT-qPCR results for KLK3 gene on RNA extracted from urine of 3 healthy donors spiked with LNCaP cells, stabilized with DRD™ and stored at 37 °C.

Similar results for HOXC6 and DLX1 (not shown). Data courtesy of mdxhealth.

urine 1 urine 2 urine 3



DNA/RNA Defend Pro™ (DRDP™)

is a nonionic detergent-based acidic medium for pathogen inactivation, stabilization of RNA/DNA/antigens, and lysis of biological samples. Compatible with extraction-free analytical procedures.

*For more information,
please visit our website*



product performance

- ✎ stabilization of nasal swab and saliva for DNA/RNA/antigen testing
- ✎ the uses of RUO DRDP™ are broader:
 - evidence for successful extraction-free PCR in urine, blood, feces, and human single cells
- ✎ preservation of antigens , suitable for rapid antigen testing or ELISA
- ✎ milder pathogen inactivation, resulting in less damage to cells (mild lysis) and nucleic acids

other

- ✎ quality controls on each produced batch:
 - chemical composition review
 - appearance
 - other quality controls on request
- ✎ MSDS on website
- ✎ COA per batch available on request

Product codes

DNA/RNA Defend Pro™ - PETG bottle

30 mL
125 mL
500 mL
1000 mL

REF:

DRDP_0030
DRDP_0125
DRDP_0500
DRDP_1000

DNA/RNA Defend Pro™ - (Micro) tubes

200 µL to 1.5 mL

REF:

on demand

other volumes on request

strongly recommended to first test
the sample type / protocol of interest with DRDP™

the instructions for use provide several suggested methods
for testing the suitability by the end user
example:

SUGGESTIONS FOR INITIAL SUITABILITY TESTS

As a starting point for such tests, it is recommended to use the following buffer vs. specimen ratios:

	DNA/RNA Defend Pro™	specimen quantity
cell pellet	1 mL	3 million cells
tissue, environmental samples	1 mL	100 mg
biofluids	1 mL	0.5 mL
swab	submerge the swab	1 swab
other	scale the recommended ratios proportionally	

NOTE: You may want to adjust the ratio of sample vs. buffer. If unsure, start with a larger volume of buffer relative to the sample (up to 9x) and work your way down to lower levels. Use at least 2x the volume of buffer relative to the sample volume.

overview of inactivation performance data

complete inactivation

<i>P. aeruginosa</i> (G-)	<i>S. pneumoniae</i> (G+)	H5N1	mpox
SARS-CoV-2	vaccinia	MERS-CoV	bRSV

incomplete inactivation

E. coli (G-)

no inactivation

<i>S. aureus</i> (G+)	<i>C. albicans</i>	<i>M. smegmatis</i> (G+)
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DNA Defend™ (DD™)

is a nonionic detergent-based neutral medium for pathogen inactivation, stabilization of DNA and antigens, and lysis of biological samples. Compatible with extraction-free procedures.

product performance

- mild lysis buffer that stabilizes DNA
- the buffer does not contain PCR inhibiting substances, which allows direct PCR on crude lysates
- for use in molecular lab processes to demonstrate the presence or absence of species-specific DNA
- confirmed suitable for Listeria and Salmonella detection in food samples (meat and dairy)
- mild pathogen inactivation

other

- quality controls on each produced batch:
 - chemical composition review
 - appearance
 - other quality controls on request
- MSDS available on request
- COA per batch available on request

Strongly recommended to first test the sample type / protocol of interest with DD™

overview of inactivation performance data

complete inactivation				
<i>P. aeruginosa</i> (G-)	H5N1	mpox	SARS-CoV-2	vaccinia
incomplete inactivation		no inactivation		
<i>E. coli</i> (G-)	<i>S. pneumoniae</i> (G+)	<i>S. aureus</i> (G+)	<i>C. albicans</i>	<i>M. smegmatis</i> (G+)



Nuclease-free water™

To prevent loss of DNA and RNA in samples, it is essential to use ultrapure (type 1), nuclease-free water in applications such as PCR, cDNA synthesis, nucleic acid purification, sequencing, cloning and applications in molecular biology and (stem) cell culture.

*For more information,
please visit our website*



product information

- ✎ deionized ultrapure water, sterile filtered and compliant with Ph. Eur. Monograph 0008
- ✎ DNase and RNase-free
- ✎ free of mycoplasmas
- ✎ subject to stringent quality controls batch related to guarantee absence of DNase/ RNase activity, endotoxins and micro-organisms
- ✎ nuclease-free PET bottles (1 L, 100 mL) or microtubes (1.5 mL)

Product codes

Nuclease-free water - PET bottle

1 x 1000 mL
1 x 100 mL

REF:

NFW_1000
NFW_0100

other

- ✎ quality claims have been extensively validated
- ✎ quality controls on each produced batch:
 - before filtration:
 - bioburden (limits: CFU/L conform EP 0008)
 - conductivity (limits: CFU/L conform EP 0008)
 - TOC (limits: < 0.5 ppm)
 - nitrates (limits: < 0.2 ppm NO₃)
 - appearance
 - quality controls on final product:
 - sterility test (limits: no growth)
 - DNase / RNase activity (limits: no detected activity in fluorometric assay)
 - endotoxins (limits: < 0.25 EU/mL)
- ✎ MSDS on website
- ✎ COA per batch available on request

Nuclease-free water - Micro tubes

72 x 1.5 mL

REF:

NFW_0015

Table: overview of buffers in function of proven performances

product name	product code	direct PCR	specimen type	inactivation	lysis	Ag	DNA	RNA		
DRD Blood™ (DRDB)	DRDB_1 (vacuum tube)	-	E	I	I		I	E		
			venous blood	Blood pathogens (most likely)	most likely	-	most likely	PCR ΔCq ≤2: 30 days at 4 °C 3 days at 25 °C RIN ≥ 6.5: 3 days at 4 °C 1 day at 25 °C		
	DRDB_2 (microtube)		E						capillary blood	
DNA/RNA Defend™ (DRD)	DRD_0030 DRD_0125 DRD_0500 DRD_1000	-	V	V	E	-	E	E		
				swab saliva	viruses bacteria fungi		white blood cells, blastocysts	-	swab saliva PCR ΔCq ≤2: > 30 days at 2-25 °C 8 days at 37 °C	swab saliva PCR ΔCq ≤2: > 30 days at 2-25 °C 8 days at 37 °C
			F	urine						F
			I							urine PCR ΔCq ≤2: 9 days at 37 °C
				Stool, tissue						
DNA/RNA Defend Pro™ (DRDP)	DRDP_0030 DRDP_0125 DRDP_0500 DRDP_1000		V	V	E	V	V	V		
			swab saliva	swab saliva	viruses	mild lysis of white blood cells, no lysis of blastocysts	Swab saliva lateral flow tests	swab saliva PCR ΔCq ≤2: 8 days at 2-25 °C	swab saliva PCR ΔCq ≤2: 8 days at 2-25 °C	
		E	E	E						
			urine stool blood	urine stool blood	several bacteria	F	ELISA			
		F	F							
DNA Defend™ (DD)	DD_0030 DD_0125 DD_0500 DD_1000		single human cells	saliva	mild lysis of cells	E	F	-		
			F	F	E	F				
			food (a.o. meat), single human cells	food, single human cells	viruses some bacteria	Salmonella, Listeria	Lateral flow tests I ELISA		Salmonella, Listeria, DNA in meat long-term	

Ag > antigen



empirical evidence



feedback from 3rd parties



likely suitable, to be investigated



validated



not suitable / not claimed

Table: available packaging sizes

container	buffervolume	DRD Blood™	DRD™	DRDP™	DD™	nuclease-free water
small microtube	150 µL	DRDB_2 (per 36 pcs.)	/	/	/	/
microtube	1.5 mL	/	/	/	/	NFW_0015 (per 72 pcs.)
vacuum tube	3 mL	DRDB_1 (per 50 pcs.)	/	/	/	
PP flat-bottom tube	2 mL	/	DRD_0002 (per 50 pcs.)	DRDP_0002* (per 50 pcs.)	DD_0002 (per 50 pcs.)	/
PET square bottle	100 mL	/	/	/	/	NFW_0100
	1000 mL	/	/	/	/	NFW_1000
PETG square bottle	30 mL	DRDB_0030	DRD_0030	DRDP_0030	DD_0030	/
	125 mL	DRDB_0125	DRD_0125	DRDP_0125	DD_0125	/
	500 mL	DRDB_0500	DRD_0500	DRDP_0500	DD_0500	/
	1000 mL	DRDB_1000	DRD_1000	DRDP_1000	DD_1000	/

(*) CE-IVDR

We look forward to
being successful together!

INACTIVblue

InActiv Blue bv
Industriepark Oost 2A
B-8730 Beernem
Belgium

VAT BE0758 884 250
☎ +32 (0)50 79 18 07
✉ info@inactivblue.com
🌐 www.inactivblue.com

