MagMAX™ DNA Multi-Sample Ultra 2.0 Kit

High-throughput isolation of DNA from whole blood and bone marrow

Catalog Number A36570

Pub. No. MAN0017325 Rev. F

WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from **thermofisher.com/support**.

Product description

The Applied Biosystems™ MagMAX™ DNA Multi-Sample Ultra 2.0 Kit is developed for scalable, rapid purification of high-quality DNA from various sample matrices. DNA purified with this kit can be used in a broad range of molecular biology downstream applications, such as sequencing, genotyping, and qPCR. This protocol provides step-by-step guidance for the automated isolation of DNA from whole blood using the KingFisher™ Flex, KingFisher™ Apex, and the KingFisher™ Duo Prime instruments, and the isolation of DNA from bone marrow using the KingFisher™ Flex and KingFisher™ Apex instruments.

Contents and storage

The MagMAX™ DNA Multi-Sample Ultra 2.0 Kit is available in two formats for purification of small-volume (50–200 µL) or large-volume (>2–10 mL) inputs of whole blood or bone marrow samples.

Table 1 Small-volume inputs (50–200 µL): MagMAX™ DNA Multi-Sample Ultra 2.0 Kit (Cat. No. A36570)

Item[1]	Amount	Storage
Enhancer Solution	4.5 mL	15–30°C
Proteinase K	4.5 mL	
Lysis/Binding Solution	45 mL	
DNA Binding Beads	4.5 mL	
Wash I Solution	110 mL	
Elution Solution	12 mL	

[1] For bone marrow samples only, MagMAX™ DNA Cell and Tissue Extraction Buffer is required and available for order separately (see Table 3).

Table 2 Large-volume inputs (>2–10 mL): MagMAX™ DNA Multi-Sample Ultra 2.0 Kit (reagents ordered separately)

Item[1]	Cat. No.	Amount	Storage
Enhancer Solution	A36583	45 mL	15–30°C
Proteinase K	A36578	45 mL	
Lysis/Binding Solution	A36581	450 mL	
DNA Binding Beads	A36579	45 mL	
Wash I Solution	A36580	1.1 L	
Elution Solution	A36582	120 mL	

[1] For bone marrow samples only, MagMAX™ DNA Cell and Tissue Extraction Buffer is required and available for order separately (see Table 3).

Table 3 MagMAX™ DNA Cell and Tissue Extraction Buffer (for bone marrow samples)

Item	Cat. No. A45469 (100 reactions)	Cat. No. A45470 (1,000 reactions)	Storage
MagMAX™ DNA Cell and Tissue Extraction Buffer	60 mL	600 mL	15–30°C

Required materials not supplied

Unless otherwise indicated, all materials are available through **thermofisher.com**. "MLS" indicates that the material is available from **fisherscientific.com** or another major laboratory supplier.

Item	Source
Instrument, one of the following, depending on sample volume:	
For small volume sample[1,2], one of the following: • KingFisher™ Flex with 96 deep-well head • KingFisher™ Apex with 96 deep–well head	 5400630 5400930
For large volume sample[3,4], one of the following: • KingFisher™ Flex with 24 deep-well head • KingFisher™ Apex with 24 Combi head	 5400640 5400940
KingFisher™ Duo Prime	5400110

Item	Source
Plates and tip combs for the KingFisher™ Flex instrument	
For small volume sample[1,2]: • KingFisher™ 96 Deep-Well Plates • KingFisher™ Flex 96 KF microplate	 95040450 97002540
For large volume sample[3,4]: KingFisher™ 24 deep-well plates	95040470
KingFisher™ 96 tip comb for deep-well magnets[1,2]	97002534
KingFisher™ 24 deep-well tip comb and plate[3,4]	97002610
Plates and tip combs for the KingFisher™ Apex instrument	
For small volume sample[1,2]: • KingFisher™ 96 Deep-Well Plates, barcoded • KingFisher™ Apex 96 KF microplate	 95040450B 97002540B
For large volume sample[3,4]: KingFisher™ 24 deep-well plates, barcoded	95040470B
KingFisher™ 96 tip comb for deep-well magnets, barcoded[1,2]	97002534B
KingFisher™ 24 deep-well tip comb and plate, barcoded[3,4]	97002610B
Plates, tip combs, and elution strips for the KingFisher™ Duo Prime instrument	
For small volume sample[1,2]: KingFisher™ 96 Deep-Well Plates	95040450
For large volume sample[3,4]: KingFisher™ 24 deep-well plates	95040470
KingFisher™ Duo Prime 12-tip comb, for use with KingFisher™ 96 Deep-Well Plates[1]	97003500
KingFisher™ Duo Prime 6-tip comb, for use with KingFisher™ 24 deep-well plates[3]	97003510
KingFisher™ elution strip for 12-pin magnet[1]	97003520
KingFisher™ elution strip cap for 12-pin magnet[1]	97003540
Reagents	
Ethanol, 96–100% (molecular biology grade)	MLS
Nuclease-free water	AM9932
MagMAX™ DNA Cell and Tissue Extraction Buffer (for bone marrow samples)	A45469 or A45470
Equipment and materials	
Sorvall™ Legend™ Micro 21R Microcentrifuge	75002436
Adjustable micropipettors	MLS
Multichannel micropipettors	MLS
MicroAmp™ Clear Adhesive Film	4306311

[1] Whole blood volume is 50–400 µL.
[2] Bone marrow volume is 200 µL.
[3] Whole blood volume is 500–2,000 µL.
[4] Bone marrow volume is 10 mL.

General guidelines

- Perform all steps at room temperature (20–25°C) unless otherwise noted.
- Precipitates and high viscosity can occur if Enhancer Solution and Lysis/Binding Solution are stored when room temperature is too cold. If this occurs, warm them at 37°C and gently mix to dissolve precipitates and decrease viscosity. Avoid creating bubbles.
- Yellowing of the Lysis/Binding Solution and Wash I Solution is normal and will not affect buffer performance.
- Per-plate volumes for reagent mixes are sufficient for one plate plus overage. To calculate volumes for other sample numbers, refer to the per-well volume and add 10% overage.
- *(Optional)* To prevent evaporation and contamination, cover the prepared processing plates with paraffin film or MicroAmp™ Clear Adhesive Film until they are loaded into the instrument.
- The kit is compatible with samples that are collected in K_2EDTA, K_3EDTA, Streck DNA, Streck RNA, and Sodium Citrate Blood Collection Tubes (BCT).

  IMPORTANT! Do not collect blood in sodium heparin blood collection tubes because the heparin that is used as the anticoagulant inhibits downstream applications.

- The Wash I Solution and Lysis/Binding Solution may develop inert white or brown particulates that float in the solution. Such particulates are not a cause for concern and will not affect kit performance.

Guidelines for Proteinase K digestion

- Do not pre-mix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.

Guidelines for DNA Binding Bead Mix

- Vortex the DNA Binding Beads thoroughly, combine them with the Lysis/Binding Solution in a nuclease-free tube, then invert the tube until homogeneous. This mixture can be stored for up to 1 day before aliquoting into the plates.
- Ensure that the beads stay fully mixed within the solution during pipetting.
- Avoid creating bubbles during mixing and aliquoting.

Before first use of the kit

Prepare Wash II Solution: Make 80% ethanol from 100% absolute ethanol and Nuclease-Free Water.

IMPORTANT! The Wash I Solution and Lysis/Binding Solution may develop inert white or brown particulates that float in the solution. Visual particulate is not a cause for concern and does not negatively affect performance.

Before each use of the kit

Vortex DNA Binding Beads to fully resuspend the beads before each use.

Perform DNA purification using KingFisher™ Flex (Whole blood: 50–400 µL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the proper magnetic head (96 deep-well) for your application.
2. Ensure that the proper heat block (96 deep-well, not standard) is installed for your application.
3. Ensure that the proper program (**MagMAX_Ultra2_200µL_V2_Flex.bdz** for 50–200 µL sample input or **MagMAX_Ultra2_400µL_V2_Flex.bdz** for 200–400 µL sample input) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the Wash, Elution, and Tip Comb Plates outside the instrument according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
50–200 µL whole blood input				
Wash I SolutionPlate	2	Deep Well	Wash I Solution	500 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	500 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	500 µL
Elution Plate	5	Deep Well	Elution Solution	50–100 µL
Tip Comb	6	Place a 96 Deep-well Tip Comb in a Standard Plate		
200–400 µL whole blood input				
Wash I SolutionPlate	2	Deep Well	Wash I Solution	1,000 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	1,000 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	500 µL
Elution Plate	5	Deep Well	Elution Solution	50–100 µL
Tip Comb	6	Place a 96 Deep-well Tip Comb in a Standard Plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared in the next section.

3 Prepare Sample Plate and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, then Proteinase K, to the appropriate wells of a deep-well plate. This will be the Sample Plate.

Enhancer Solution (µL)	Sample Volume (µL)	Proteinase K (µL)
5	50	5
10	100	10
20	200	20
30	300	30
40	400	40

Note:

- Do not pre-mix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3 *(continued)*

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
50–200 µL	**MagMAX_Ultra2_200µL_V2_Flex.bdz**
200–400 µL	**MagMAX_Ultra2_400µL_V2_Flex.bdz**

3. Start the run and load the prepared plates into position when prompted by the instrument.

   During the onboard Proteinase K sample digestion (approx. 20 minutes) prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate[1]
50–200 µL whole blood input (96 samples per plate)		
Lysis/Binding Solution	200 µL	21.12 mL
DNA Binding Beads	20 µL	2.11 mL
Total DNA Binding Bead Mix	**220 µL**	**23.23 mL**
200–400 µL whole blood input (96 samples per plate)		
Lysis/Binding Solution	400 µL	42.24 mL
DNA Binding Beads	40 µL	4.22 mL
Total DNA Binding Bead Mix	**440 µL**	**46.46 mL**

[1] Volumes include 10% overage.

2. When instructed by the instrument (about 20 minutes after the run has started), remove the Sample Plate, then add DNA Binding Bead Mix to each sample, according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
50–200 µL	220 µL
200–400 µL	440 µL

Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Apex (Whole blood: 50–400 µL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the proper magnetic head (96 deep-well) for your application.
2. Ensure that the proper heat block (96 deep-well, not standard) is installed for your application.
3. Ensure that the proper program (**MagMAX_Ultra2_200µL_v2.kfx** for 50–200 µL sample input or **MagMAX_Ultra2_400µL_v2.kfx** for 200–400 µL sample input) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the Wash, Elution, and Tip Comb Plates outside the instrument according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
50–200 µL whole blood input				
Wash I Solution Plate	3	Deep Well	Wash I Solution	500 µL
Wash II Solution Plate 1	4	Deep Well	Wash II Solution	500 µL
Wash II Solution Plate 2	5	Deep Well	Wash II Solution	500 µL
Elution Plate	6	Deep Well	Elution Solution	50–100 µL
Tip Comb	1	Place a 96 Deep-well Tip Comb in a Standard Plate		
200–400 µL whole blood input				
Wash I Solution Plate	3	Deep Well	Wash I Solution	1,000 µL
Wash II Solution Plate 1	4	Deep Well	Wash II Solution	1,000 µL
Wash II Solution Plate 2	5	Deep Well	Wash II Solution	500 µL
Elution Plate	6	Deep Well	Elution Solution	50–100 µL
Tip Comb	1	Place a 96 Deep-well Tip Comb in a Standard Plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared.

3 Prepare Sample Plate and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, and lastly Proteinase K, to the appropriate wells of a deep-well plate. This is the Sample Plate.

Enhancer Solution (µL)	Sample Volume (µL)	Proteinase K (µL)
5	50	5
10	100	10
20	200	20
30	300	30
40	400	40

Note:

- Do not pre-mix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3 *(continued)*

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
50–200 µL	**MagMAX_Ultra2_200µL_v2.kfx**
200–400 µL	**MagMAX_Ultra2_400µL_v2.kfx**

3. Start the run and load the prepared plates into position when prompted by the instrument.

   During the onboard Proteinase K sample digestion (approx. 20 minutes) prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
50–200 µL whole blood input (96 samples per plate)		
Lysis/Binding Solution	200 µL	21.12 mL
DNA Binding Beads	20 µL	2.11 mL
Total DNA Binding Bead Mix	**220 µL**	**23.23 mL**
200–400 µL whole blood input (96 samples per plate)		
Lysis/Binding Solution	400 µL	42.24 mL
DNA Binding Beads	40 µL	4.22 mL
Total DNA Binding Bead Mix	**440 µL**	**46.46 mL**

2. When instructed by the instrument (about 20 minutes after the run has started), remove the Sample Plate, then add DNA Binding Bead Mix to each sample, according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
50–200 µL	220 µL
200–400 µL	440 µL

   Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

   IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Flex (Whole blood: 500 µL to 2 mL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the proper magnetic head (24 deep-well) for your application.
2. Ensure that the proper heat block (24 well) is installed for your application.
3. Ensure that the proper program (**MagMAX_Ultra2_1mL_V2_Flex.bdz** for 500 µL–1 mL sample input or **MagMAX_Ultra2_2mL_V2_Flex.bdz** for 1.1–2 mL sample input) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the Wash, Elution, and Tip Comb Plates outside the instrument according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
500 µL–1 mL whole blood input				
Wash I SolutionPlate	2	Deep Well	Wash I Solution	2,500 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	2,500 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	1,000 µL
Elution Plate	5	Deep Well	Elution Solution	150–200 µL
Tip Comb	6	KingFisher™ Flex 24 Deep-well Tip Comb and Plate		
1.1 mL–2 mL whole blood input				
Wash I SolutionPlate	2	Deep Well	Wash I Solution	5,000 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	4,000 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	2,000 µL
Elution Plate	5	Deep Well	Elution Solution	250–300 µL
Tip Comb	6	KingFisher™ Flex 24 Deep-well Tip Comb and Plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared.

3 Prepare Sample Plate and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, and lastly Proteinase K, to the appropriate wells of a deep-well plate. This will be the Sample Plate.

Enhancer Solution (µL)	Sample Volume (µL)	Proteinase K (µL)
50	500	50
100	1000	100
200	2000	200

Note:

- Do not pre-mix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3 *(continued)*

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
500 µL–1 mL	**MagMAX_Ultra2_1mL_V2_Flex.bdz**
1.1 mL–2 mL	**MagMAX_Ultra2_2mL_V2_Flex.bdz**

3. Start the run and load the prepared plates into position when prompted by the instrument.

   During the onboard Proteinase K sample digestion (approx. 20 minutes) prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
500 µL–1 mL whole blood input (24 samples per plate)		
Lysis/Binding Solution	1,000 µL	26.40 mL
DNA Binding Beads	100 µL	2.64 mL
Total DNA Binding Bead Mix	**1,100 µL**	**29.04 mL**
1.1 mL–2 mL whole blood input (24 samples per plate)		
Lysis/Binding Solution	2,000 µL	52.80 mL
DNA Binding Beads	200 µL	5.28 mL
Total DNA Binding Bead Mix	**2,200 µL**	**58.08 mL**

2. When instructed by the instrument (about 20 minutes after the run has started), remove the Sample Plate and add DNA Binding Bead Mix to each sample, according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
500 µL–1 mL	1,100 µL
1.1 mL–2 mL	2,200 µL

   Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

   IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Apex (Whole blood: 500 µL to 2 mL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the correct magnetic head (24 deep-well) for the application.
2. Ensure that the correct heat block (24 well) is installed for your application.
3. Ensure that the correct program (**MagMAX_Ultra2_1mL_v2.kfx** or **MagMAX_Ultra2_2mL_ST_v2.kfx**) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the Wash, Elution, and Tip Comb Plates outside the instrument according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
500 µL–1 mL whole blood input				
Wash I Solution Plate	3	Deep Well	Wash I Solution	2,500 µL
Wash II Solution Plate 1	4	Deep Well	Wash II Solution	2,500 µL
Wash II Solution Plate 2	5	Deep Well	Wash II Solution	1,000 µL
Elution Plate	6	Deep Well	Elution Solution	150–200 µL
Tip Comb	1	KingFisher™ Flex 24 Deep-well Tip Comb and Plate		
1.1 mL–2 mL whole blood input				
Wash I Solution Plate	3	Deep Well	Wash I Solution	5,000 µL
Wash II Solution Plate 1	4	Deep Well	Wash II Solution	4,000 µL
Wash II Solution Plate 2	5	Deep Well	Wash II Solution	2,000 µL
Elution Plate	6	Deep Well	Elution Solution	250–300 µL
Tip Comb	1	KingFisher™ Flex 24 Deep-well Tip Comb and Plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared.

3 Prepare Sample Plate and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, and lastly Proteinase K, to the appropriate wells of a deep-well plate. This is the Sample Plate.

Enhancer Solution (µL)	Sample volume (µL)	Proteinase K (µL)
50	500	50
100	1000	100
200	2000	200

Note:

- Do not premix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3 *(continued)*

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
500 µL–1 mL	**MagMAX_Ultra2_1mL_v2.kfx**
1.1 mL–2 mL	**MagMAX_Ultra2_2mL_ST_v2.kfx**

3. Start the run, then load the prepared plates into position when prompted by the instrument.

   During the Proteinase K sample digestion (about 20 minutes), prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
500 µL–1 mL whole blood input (24 samples per plate)		
Lysis/Binding Solution	1,000 µL	26.40 mL
DNA Binding Beads	100 µL	2.64 mL
Total DNA Binding Bead Mix	**1,100 µL**	**29.04 mL**
1.1 mL–2 mL whole blood input (24 samples per plate)		
Lysis/Binding Solution	2,000 µL	52.80 mL
DNA Binding Beads	200 µL	5.28 mL
Total DNA Binding Bead Mix	**2,200 µL**	**58.08 mL**

2. When instructed by the instrument (~20 minutes after the run has started), remove the Sample Plate, then add DNA Binding Bead Mix to each sample, according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
500 µL–1 mL	1,100 µL
1.1 mL–2 mL	2,200 µL

   Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

   IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at -20°C for long-term storage.

Perform DNA purification using KingFisher™ Duo Prime (Whole blood: 50–400 µL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the correct magnetic head (12 pin) and heat block for the application.
2. Ensure that the correct program (**MagMAX_Ultra2_200µL_V2_Duo.bdz** for 50–200 µL sample input or **MagMAX_Ultra2_400µL_V2_Duo.bdz** for 200–400 µL sample input) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plate

Prepare the plate and elution strip according to the following tables. The Sample Row will be prepared in the next section.

Table 4 96 Deep-well plate layout (50–200 µL whole blood input)

Row ID	Plate Row	Reagent	Volume per well
Plate layout			
Sample	A	Sample[1]	Varies
Tip Comb	B	Tip Comb	N/A
—	C	Empty	
Wash I Solution	D	Wash I Solution	500 µL
Wash II Solution	E	Wash II Solution	500 µL
Wash II Solution	F	Wash II Solution	500 µL
—	G	Empty	
—	H	Empty	
Duo elution strip			
Elution Solution	—	Elution Solution	50–100 µL

[1] See "Prepare Sample Row and digest with Proteinase K" on page 12.

Table 5 96 Deep-well plate layout (200–400 µL whole blood input)

Row ID	Plate Row	Reagent	Volume per well
Plate layout			
Sample	A	Sample[1]	Varies
Tip Comb	B	Tip Comb	N/A
—	C	Empty	
Wash I Solution	D	Wash I Solution	1,000 µL
Wash II Solution	E	Wash II Solution	1,000 µL
Wash II Solution	F	Wash II Solution	500 µL
—	G	Empty	
—	H	Empty	
Duo elution strip			
Elution Solution	—	Elution Solution	50–100 µL

[1] See "Prepare Sample Row and digest with Proteinase K" on page 14.

Note: The plate will be loaded onto the instrument immediately after the Sample Row has been prepared.

3 Prepare Sample Row and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, and lastly Proteinase K, to the appropriate wells (Row A) of the deep-well plate that was previously prepared.

Enhancer Solution (µL)	Sample Volume (µL)	Proteinase K (µL)
5	50	5
10	100	10
20	200	20
30	300	30
40	400	40

Note:

- Do not pre-mix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
50–200 µL	**MagMAX_Ultra2_200µL_V2_Duo.bdz**
200–400 µL	**MagMAX_Ultra2_400µL_V2_Duo.bdz**

3. Start the run and load the prepared plate and elution strip into position when prompted by the instrument.

   During the onboard Proteinase K sample digestion (approx. 20 minutes) prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
50–200 µL whole blood input (12 samples per plate)		
Lysis/Binding Solution	200 µL	2.64 mL
DNA Binding Beads	20 µL	264 µL
Total DNA Binding Bead Mix	**220 µL**	**2.91 mL**
200–400 µL whole blood input (12 samples per plate)		
Lysis/Binding Solution	400 µL	5.28 mL
DNA Binding Beads	40 µL	528 µL
Total DNA Binding Bead Mix	**440 µL**	**5.81 mL**

4 *(continued)*

2. When instructed by the instrument (approx. 20 minutes after the run has started), remove Plate 1 and add DNA Binding Bead Mix to each sample (Row A), according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
50–200 µL	220 µL
200–400 µL	440 µL

Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate and elution strip from the instrument.

5. Seal the eluate within the strips using the dedicated caps or transfer the eluate to a tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Duo Prime (Whole blood: 500 µL to 2mL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the proper magnetic head (6 pin) and heat block for your application.

2. Ensure that the proper program (**MagMAX_Ultra2_1mL_V2_Duo.bdz** for 500 µL–1 mL sample input or **MagMAX_Ultra2_2mL_V2_Duo.bdz** for 1.1–2 mL sample input) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plate

Prepare the 24DW plate according to the following tables.

Table 6 24DW plate layout (500 µL–1 mL whole blood input)

Row ID	Plate Row	Reagent	Volume per well
Plate 1 layout			
Sample	A	Sample[1]	Varies
Wash I Solution	B	Wash I Solution	2,500 µL
Wash II Solution	C	Wash II Solution	2,500 µL
Wash II Solution	D	Wash II Solution	1,000 µL
Plate 2 layout			
Elution Solution	A	Elution Solution	150–200 µL
Tip Comb	B	Tip Comb	N/A
—	C	Empty	
—	D	Empty	

[1] "Prepare Sample Row and digest with Proteinase K" on page 14

2 *(continued)*

Table 7 24DW plate layout (1.1 mL–2 mL whole blood input)

Row ID	Plate Row	Reagent	Volume per well
Plate 1 layout			
Sample	A	Sample[1]	Varies
Wash I Solution	B	Wash I Solution	5,000 µL
Wash II Solution	C	Wash II Solution	4,000 µL
Wash II Solution	D	Wash II Solution	2,000 µL
Plate 2 layout			
Elution Solution	A	Elution Solution	250–300 µL
Tip Comb	B	Tip Comb	N/A
—	C	Empty	
—	D	Empty	

[1] See "Prepare Sample Row and digest with Proteinase K" on page 14.

Note: The plates will be loaded onto the instrument immediately after the Sample Row has been prepared.

3 Prepare Sample Row and digest with Proteinase K

1. Transfer appropriate amount (according to the following table) of Enhancer Solution first, then sample, and lastly Proteinase K, to the appropriate wells (Row A) of the deep-well plate that was previously prepared.

Enhancer Solution (µL)	Sample Volume (µL)	Proteinase K (µL)
50	500	50
100	1000	100
200	2000	200

Note:

- Do not pre-mix the Binding Enhancer and Proteinase K.
- Do not change the order of pipetting.
- Once all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

2. Select the program on the instrument according to the following table.

Whole blood input volume	Program
500 µL–1 mL	**MagMAX_Ultra2_1mL_V2_Duo.bdz**
1.1 mL–2 mL	**MagMAX_Ultra2_2mL_V2_Duo.bdz**

3. Start the run, and load the prepared plate into position when prompted by the instrument.

   During this on board Proteinase K sample digestion (approx. 20 minutes) prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
500 µL–1 mL whole blood input (6 samples per plate)		
Lysis/Binding Solution	1000 µL	6.60 mL
DNA Binding Beads	100 µL	660 µL
Total DNA Binding Bead Mix	**1100 µL**	**7.26 mL**
1.1 mL–2 mL whole blood input (6 samples per plate)		
Lysis/Binding Solution	2000 µL	13.20 mL
DNA Binding Beads	200 µL	1.32 mL
Total DNA Binding Bead Mix	**2200 µL**	**14.52 mL**

2. When instructed by the instrument (approx. 20 minutes after the run has started), remove Plate 1 and add DNA Binding Bead Mix to each sample (Row A), according to the following table.

For whole blood input volume	Add DNA Binding Bead Mix
500 µL–1 mL	1,100 µL
1.1 mL–2 mL	2,200 µL

Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous, pipet slowly to ensure that the correct amount is added.

IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Flex (Whole blood: 10 mL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the 24 deep-well magnetic head before use.

2. Ensure that the 24-well heat block is installed before use.

3. Ensure that the proper program (**MagMAX_Ultra2_10mL_Dig.bdz** and **MagMAX_Ultra2_10mL_Wash.bdz**) has been downloaded from the product page and loaded onto the instrument.

2 Perform sample digestion and lysis binding

1. Prepare Wash I plates according to the following table.

Plate ID (24 DW Plates)	Reagent	Volume per well
Wash I Plate A	Wash I Solution	5,000 µL
Wash I Plate B	Wash I Solution	5,000 µL

2 *(continued)*

2. Prepare Sample Plate, then digest with Proteinase K.
   a. Transfer the appropriate amount (according to the following table) of Enhancer Solution first, then sample, then Proteinase K into each of the 5 sample plates.
   b. Distribute 10 mL whole blood sample evenly (2 mL) in 5 sample plates in the corresponding well for each donor.

Plate ID (24 DW Plates)	Enhancer Solution	Sample volume	Proteinase K
Sample Plate 1	200 µL	2,000 µL	200 µL
Sample Plate 2	200 µL	2,000 µL	200 µL
Sample Plate 3	200 µL	2,000 µL	200 µL
Sample Plate 4	200 µL	2,000 µL	200 µL
Sample Plate 5	200 µL	2,000 µL	200 µL

Note:
- Do not premix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- After all components are added, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3. Set up the Wash I Plates and Sample Plates on the instrument, according to the following table.

Plate ID (24 DW Plates)	Plate position	Plate type	Reagent	Volume per well
Sample Plate 1	1	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 2	2	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 3	3	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 4	4	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 5	5	Deep Well	Enhancer + Sample + Pk	2,400 µL
Wash I Plate A	6	Deep Well	Wash I Solution	5,000 µL
Wash I Plate B	7	Deep Well	Wash I Solution	5,000 µL
Tip Comb	8	Place 24 well tip comb in 24 DW plate		

   a. Select the program (**MagMax_Ultra2_10mL_Dig.bdz**) on the instrument.
   b. Start the run, then load the plates into the position when prompted by the instrument.
   c. During the run (about 55 minutes), prepare the DNA Binding Bead Mix with 10% overage.

Component	Volume per well
Lysis/Binding Solution	2,000 µL
DNA Binding Beads	200 µL
Total DNA Binding Bead Mix	2,200 µL

   d. When instructed by the instrument, remove the Sample Plate 1 from the instrument, then add 2,200 µL of DNA Binding Bead Mix to the Sample Plate.
   e. Press **Start** and perform the above step for the 4 remaining sample plates.
   The digestion script will run for about 2 hours and 15 minutes.
   f. After the run, keep Wash I Plate A and Wash I Plate B for further processing.

3 Wash and elute the sample

1. Set up the processing plates, according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
Wash I Plate A	1	Deep Well	Wash I Solution	5,000 µL
Wash II Plate 1	2	Deep Well	Wash II Solution	4,000 µL
Wash I Plate B	3	Deep Well	Wash I Solution	5,000 µL
Wash II Plate 2	4	Deep Well	Wash II Solution	2,000 µL
Elution Plate	5	Deep Well	Elution Solution	1,000 µL
Tip Comb	Wash I Plate A			

2. Select the program (**MagMax_Ultra2_10mL_Wash.bdz**) on the instrument.
3. Start the run, then load the plates into the appropriate positions when prompted by the instrument.
   The sample washing and elution script will run for about 1 hour and 25 minutes.
4. At the end of the run, immediately remove the plate from the instrument and seal with MicroAmp™ Clear Adhesive Film or equivalent.

   Note: If there are beads remaining in the Elution Plate, place the plate on a 24-well magnetic separator (Cat. No. CS15024) for 10–20 minutes to collect the beads.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Apex (Whole blood: 10 mL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the 24 deep-well magnetic head before use.
2. Ensure that the 24-well heat block is installed before use.
3. Ensure that the proper program (**MagMAX_Ultra2_10mL_Dig.kfx** and **MagMAX_Ultra2_10mL_Wash.kfx**) has been downloaded from the product page and loaded onto the instrument.

2 Perform sample digestion and lysis binding

1. Prepare Wash I plates according to the following table.

Plate ID (24 DW Plates)	Reagent	Volume per well
Wash I Plate A	Wash I Solution	5,000 µL
Wash I Plate B	Wash I Solution	5,000 µL

2. Prepare Sample Plate, then digest with Proteinase K.
   a. Transfer the appropriate amount (according to the following table) of Enhancer Solution first, then sample, then Proteinase K into each of the 5 sample plates.
   b. Gently invert the whole blood tubes 10 times for uniform sample mixing.

2 *(continued)*

c. Distribute 10 mL whole blood sample evenly (2 mL) in 5 sample plates in the corresponding well for each donor.

Plate ID (24 DW Plates)	Enhancer Solution	Sample volume	Proteinase K
Sample Plate 1	200 µL	2,000 µL	200 µL
Sample Plate 2	200 µL	2,000 µL	200 µL
Sample Plate 3	200 µL	2,000 µL	200 µL
Sample Plate 4	200 µL	2,000 µL	200 µL
Sample Plate 5	200 µL	2,000 µL	200 µL

Note:

- Do not premix the Enhancer Solution and Proteinase K.
- Do not change the order of pipetting.
- After all components are added to each of the 5 sample plates, proceed immediately to the instrument processing. There is no need for manual mixing beforehand.

3. Set up the Wash I Plates on the instrument, according to the following table.

Plate ID (24 DW Plates)	Plate position	Plate type	Reagent	Volume per well
Sample Plate 1	1	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 2	2	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 3	3	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 4	4	Deep Well	Enhancer + Sample + Pk	2,400 µL
Sample Plate 5	5	Deep Well	Enhancer + Sample + Pk	2,400 µL
Wash I Plate A	6	Deep Well	Wash I Solution	5,000 µL
Wash I Plate B	7	Deep Well	Wash I Solution	5,000 µL
Tip Comb	8	Place 24 well tip comb in 24 DW plate		

a. Select the program (**MagMax_Ultra2_10mL_Dig.kfx**) on the instrument.

b. Start the run and load the plates into the position when prompted by the instrument.

c. During the run (about 55 minutes), prepare the DNA Binding Bead Mix with 10% overage.

Component	Volume per well
Lysis/Binding Solution	2,000 µL
DNA Binding Beads	200 µL
Total DNA Binding Bead Mix	2,200 µL

d. When instructed by the instrument, remove Sample Plate 1 from the instrument, then add 2,200 µL of DNA Binding Bead Mix to the Sample Plate.

e. Press **Start** and perform the above step for the 4 remaining sample plates.
The digestion script will run for about 2 hours and 15 minutes.

f. After the run, keep Wash I Plate A and Wash I Plate B for further processing.

3 Wash and elute the sample

1. Set up the processing plates, according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
Wash I Plate A	1	Deep Well	Wash I Solution	5,000 µL
Wash II Plate 1	2	Deep Well	Wash II Solution	4,000 µL
Wash I Plate B	3	Deep Well	Wash I Solution	5,000 µL
Wash II Plate 2	4	Deep Well	Wash II Solution	2,000 µL
Elution Plate	5	Deep Well	Elution Solution	1,000 µL
Tip Comb	Wash I Plate A			

2. Select the program (**MagMax_Ultra2_10mL_Wash.kfx**) on the instrument.
3. Start the run, then load the plates into the appropriate positions when prompted by the instrument.
   The sample washing and elution script will run for about 1 hour and 25 minutes.
4. At the end of the run, immediately remove the plate from the instrument and seal with MicroAmp™ Clear Adhesive Film or equivalent.

   Note: If there are beads remaining in the Elution Plate, place the plate on a 24-well magnetic separator (Cat. No. CS15024) for 10–20 minutes to collect the beads.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Flex (Bone marrow: 200 µL)

1 Set up the instrument

1. Ensure that the instrument is set up for processing with the 96 deep-well magnetic head.
2. Ensure that the 96 deep-well magnetic heat block (not standard) is installed for your application.
3. Ensure that the correct program (**MagMAX_Ultra2_400µL_V2_Flex.bdz**) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the processing plates outside of the instrument, according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
Wash I Solution Plate	2	Deep Well	Wash I Solution	1,000 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	1,000 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	500 µL
Elution Plate	5	Deep Well	Elution Solution	50–100 µL
Tip Comb	6	Place a 96 deep-well tip comb in a standard plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared.

3 Prepare Sample Plate, then digest with Proteinase K

1. Aliquot 200 µL of bone marrow aspirate into a 1.5-mL microfuge tube.
2. Centrifuge at 200 x *g* for 10 minutes at room temperature in a benchtop centrifuge.
3. Carefully discard the supernatant without disturbing the pellet.
4. Resuspend the pellet in 400 µL of MagMAX™ DNA Cell and Tissue Extraction Buffer (Cat. No. A45721).

3 *(continued)*

5. Add Enhancer Solution, then sample, then Proteinase K to the appropriate wells of a deep-well plate (Sample Plate), according to the following table.

Enhancer Solution	Sample volume	Proteinase K
40 µL	400 µL	40 µL

6. Start the run, then load the prepared plates into position when prompted by the instrument.

   During the run (about 20 minutes), prepare the DNA Binding Bead Mix.

4 **Purify the gDNA**

1. Prepare DNA Binding Bead Mix according to the following table.

Component	Volume per well	Volume per plate
Lysis/Binding Solution	400 µL	42.24 mL
DNA Binding Beads	40 µL	4.22 mL
Total DNA Binding Bead Mix	**440 µL**	**46.46 mL**

2. When instructed by the instrument (about 20 minutes after the run has started), remove the Sample Plate, then add DNA Binding Bead Mix to each sample, according to the following table.

For bone marrow input volume	Add DNA Binding Bead Mix
400 µL	440 µL

   Note: Remix Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. Mixture is viscous; pipet slowly to ensure that the correct amount is added.

   IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the instrument prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. Alternatively, store the plate at –20°C for long-term storage.

Perform DNA purification using KingFisher™ Apex (Bone marrow: 200 µL)

1 **Set up the instrument**

1. Ensure that the instrument is set up for processing with the 96 deep-well magnetic head.
2. Ensure that the 96 deep-well magnetic heat block (not standard) is installed for your application.
3. Ensure that the correct program (**MagMAX_Ultra2_400µL_v2.kfx**) has been downloaded from the product page and loaded onto the instrument.

2 Set up the processing plates

Set up the processing plates outside of the instrument, according to the following table.

Plate ID	Plate position	Plate type	Reagent	Volume per well
Wash I Solution Plate	2	Deep Well	Wash I Solution	1,000 µL
Wash II Solution Plate 1	3	Deep Well	Wash II Solution	1,000 µL
Wash II Solution Plate 2	4	Deep Well	Wash II Solution	500 µL
Elution Plate	5	Deep Well	Elution Solution	50–100 µL
Tip Comb	6	Place a 96 deep-well tip comb in a standard plate		

Note: The plates will be loaded onto the instrument immediately after the Sample Plate has been prepared.

3 Prepare Sample Plate, then digest with Proteinase K

1. Aliquot 200 µL of bone marrow aspirate into a 1.5-mL microfuge tube.
2. Centrifuge at 200 x *g* for 10 minutes at room temperature in a benchtop centrifuge.
3. Carefully discard the supernatant without disturbing the pellet.
4. Resuspend the pellet in the appropriate volume (500 µL, 1,000 µL, or 2,000 µL) of MagMAX™ DNA Cell and Tissue Extraction Buffer.
5. Add Enhancer Solution, then sample, then Proteinase K to the appropriate wells of a deep-well plate (Sample Plate), according to the following table.

Enhancer Solution	Sample volume	Proteinase K
50 µL	500 µL	50 µL
100 µL	1,000 µL	100 µL
200 µL	2,000 µL	200 µL

6. Select the program on the instrument according to the following table.

Bone marrow input volume	Program
500 µL–1 mL	**MagMAX_Ultra2_1mL_v2.kfx**
1.1 mL–2 mL	**MagMAX_Ultra2_2mL.kfx**

7. Start the run, then load the prepared plates into position when prompted by the instrument.

   During the run (about 20 minutes), prepare the DNA Binding Bead Mix.

4 Purify the gDNA

1. Prepare DNA Binding Bead Mix, according to the following table.

Component	Volume per well	Volume per plate
Lysis/Binding Solution	400 µL	42.24 mL
DNA Binding Beads	40 µL	4.22 mL
Total DNA Binding Bead Mix	**440 µL**	**46.46 mL**

4 *(continued)*

2. When instructed by the instrument (about 20 minutes after the run has started), remove the Sample Plate and add DNA Binding Bead Mix to each sample, according to the following table.

For bone marrow pellet resuspended in MagMAX™ DNA Cell and Tissue Extraction Buffer	Add DNA Binding Bead Mix
400 µL	440 µL

Note: Remix DNA Binding Bead Mix often during pipetting to ensure uniform distribution of beads to all samples/wells. The mixture is viscous; pipet slowly to ensure that the correct amount is added.

IMPORTANT! Avoid creating bubbles during mixing and aliquoting.

3. Immediately place the plate back onto the instrument, then follow the instrument prompts to allow the sample processing to proceed.

4. At the end of the run, immediately remove the plate from the instrument, then transfer the eluate to the tube/plate of choice for final storage.

The purified DNA is ready for immediate use. For long-term storage, follow the recommended storage conditions in accordance with your laboratory policies.

Quantitation

To most accurately quantitate gDNA samples isolated from whole blood and bone marrow, it is recommended to quantitate using a NanoDrop™ spectrophotometer. Another acceptable method is quantitation utilizing qPCR and the Applied Biosystems™ TaqMan™ RNase P Detection Reagents Kit (Cat. No. 4316831).

Limited product warranty

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Revision history: Pub. No. MAN0017325 F

Revision	Date	Description
F	31 July 2024	Important statement added to the user guide under the section "Before first use of the kit".
E00	19 March 2024	• Purification procedures and automated scripts were added for bone marrow and 10-mL whole blood samples. • Other minor updates were performed for style and clarity.
D.0	12 April 2021	Support added for KingFisher™ Apex Purification System.
C.0	15 March 2019	Updated manufacturing address to Vilnius. Added note to address yellowing buffers and viscosity concerns.
B.0	6 December 2017	Added quantitation section and minor edits.
A.0	8 September 2017	New document for MagMAX™ DNA Multi-Sample Ultra 2.0 Kit.