GENECLEAN® SPIN Kit

For rapid and user-friendly purification of DNA in three basic steps

Revision # 1101-999-3E05

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Application Manual

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Cat. Nos.
1101-200, 50 preps
1101-400, 100 preps
1101-600, 300 preps

Storage:
Ambient temperature (15–30°C)

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1. Introduction

Patented GENECLEAN® technology simplifies the process of purifying DNA into three easy steps: Bind, Wash and Elute. Ethanol precipitation is never required and purified DNA is immediately ready for a wide variety of downstream applications. The GENECLEAN® SPIN Kit is used to purify fragments of DNA 200 bp to 300 kb.

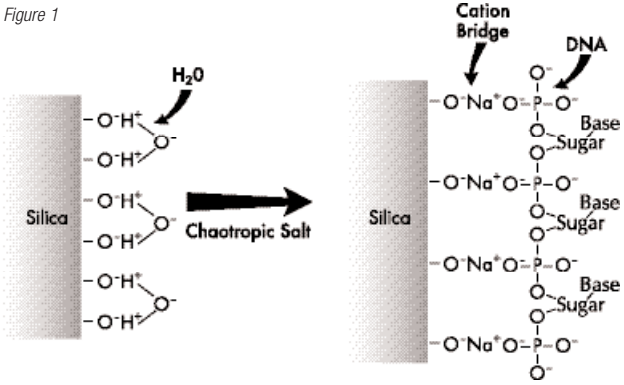
1.1 Applications for GENECLEAN® Technology

- Desalting
- Isolate nucleic acids from agarose gels
- Eliminate proteins from enzymatic reactions
- Remove primers and unincorporated nucleotides from enzymatic reactions
- Separate linearized from uncut vector
- Isolate PCR product away from genomic DNA and primers

1.2 How Does GENECLEAN® Technology Work?

DNA generally binds to silica in high concentrations of chaotropic salt and elutes when the salt concentration is lowered. The mechanism of DNA binding to silica in high salt has not been completely described, but may involve chaotropic salt disruption of the water structure around negatively charged silica, allowing a cation bridge to form between it and the negatively charged phosphate backbone of DNA (fig. 1). When the salt concentration is lowered, rehydration of the silica matrix breaks the attraction between the matrix and DNA. The fact that DNA binds in high salt and elutes in low salt makes this method especially useful as a purification procedure. Since the DNA is eluted with either water or a low salt buffer, it can be used immediately in subsequent reactions without precipitation or other further manipulation. This is unlike ion exchange methods that require binding in low salt and elution in high salt and require precipitation or other means of removing salt before the DNA can be used.

Figure 1



2. Kit Components and User Supplied Materials

2.1 GENECLEAN® SPIN Kit Components

GENECLEAN® SPIN GLASSMILK® (30 ml, Cat. #1101-201; 60 ml, Cat. #1101-401; 180 ml, Cat. #1101-601) is a specially prepared aqueous suspension of proprietary silica matrix and chaotropic binding salt. It contains a built in TBE Modifier so it can be used with TAE- or TBE-buffered agarose gels.

GENECLEAN® SPIN NEW Wash (25 ml, Cat. #1101-202; 50 ml, Cat. #1101-402; 150 ml, Cat. #1101-602) is a solution containing NaCl, Tris, and EDTA to which ethanol is added to make GENECLEAN® SPIN NEW Wash (see Preparation of GENECLEAN® SPIN NEW Wash in Section 3.1). Store GENECLEAN® SPIN NEW Wash at the bench (15°-30°C). Keep tightly capped to prevent evaporation of ethanol.

GENECLEAN® SPIN Elution Solution (5 ml, Cat. #1101-205; 10 ml, Cat. #1101-405; 30 ml, Cat. #1101-605) is RNase/DNase/pyrogen-free water for elution of DNA from GENECLEAN® SPIN GLASSMILK®.

SPIN Filters (50 filters, Cat. #1101-206; 100 filters, Cat. #1101-406; 300 filters, Cat. #1101-606) are used to keep the GENECLEAN® SPIN GLASSMILK® on the surface of the filter while allowing liquid to flow through. During elution, spin filters prevent silica particle carry-over into cleaned DNA.

Catch Tubes (50 tubes, Cat. #1101-207) are provided with the SPIN Filters to collect flow-through from the Wash solution and to collect the DNA following elution from the GENECLEAN® SPIN GLASSMILK®.

2.2 Optional Components Available from Qbiogene, Inc.

Label Block (1ml, Cat. #1001-605) is available to pre-treat the GENECLEAN® SPIN GLASSMILK® and help minimize irreversible binding of labeled DNA.

2.3 User Supplied Materials

100% ethanol
Distilled water
Microcentrifuge
Vortexer
Water bath or heat block
1.5 ml microcentrifuge tubes

3. Important Considerations Before Use

3.1 Preparation of GENECLEAN® SPIN NEW Wash

Before first use, add the correct volume of 200 proof (100% ethanol) to the GENECLEAN® SPIN NEW Wash Concentrate according to the chart below and mix well. Do not use denatured alcohol because it can cause precipitation of salts. Label the container. Store tightly capped at 15°-30°C.

Cat. No.	No. of Preps	GENECLEAN® SPIN NEW Wash	200 proof (100%) Ethanol
1101-200	50	25 ml	25 ml
1101-400	100	50 ml	50 ml
1101-600	300	150 ml	150 ml

3.2 Binding Capacity

Each prep uses 400 µl of GENECLEAN® SPIN GLASSMILK®, which will bind up to 5 µg of either ssDNA or dsDNA.

3.3 Reconstitution of GENECLEAN® SPIN GLASSMILK®

Particles of silica matrix on the cap of the container can prevent an airtight seal that will result in the evaporation of the liquid in the GENECLEAN® SPIN GLASSMILK® vial. To reconstitute the GENECLEAN® SPIN GLASSMILK®, add sterile, distilled water to the container so that the amount of liquid and solid is approximately equal and mix well to fully activate.

3.4 Yield Measurements.

The best method for checking yields of DNA isolated by GENECLEAN® SPIN is to run an aliquot on an agarose gel using known quantities in adjacent lanes as controls. OD_{260} and fluorescent readings can also be used to estimate yields, but these methods are affected by trace amounts of salts and silica matrix, so it is best to confirm these readings by gel analysis.

3.5 Agarose Types

Low-melt agarose is not required for any GENECLEAN®-based kit. The procedure will work with any molecular biology-grade agarose.

3.6 Purifying Radio-Labeled DNA

Radioactive isotope-labeled DNA that is purified from agarose may bind irreversibly to GENECLEAN® SPIN GLASSMILK®. A Label Block solution is available from Qbiogene (Cat #1001-605) to pretreat the GENECLEAN® SPIN GLASSMILK® and help minimize irreversible binding of labeled DNA: 0.8 µl of Label Block should be added for every 400 µl of GENECLEAN® SPIN GLASSMILK®.

3.7 SPIN Filters

SPIN Filters have a maximum rating of 14,000 x g. Exceeding this speed may cause the filters to rupture and leak.

4. Simplified Protocols for Experienced Users

4.1 Rapid Purification of DNA from Solutions

1. Shake GENECLEAN® SPIN GLASSMILK® to suspend.
2. Add 400 µl GENECLEAN® SPIN GLASSMILK® to SPIN Filter.
3. Add a maximum of 300 µl DNA solution to GENECLEAN® SPIN GLASSMILK® in SPIN Filter.
4. Incubate at room temperature for 5 minutes. Mix every 1-2 minutes.
5. Centrifuge for 1 minute or until liquid is transferred to the Catch Tube. Empty Catch Tube as needed.
6. Add 500 µl of prepared GENECLEAN® SPIN NEW Wash to the filter and centrifuge for 30 seconds. Empty Catch Tube as needed.
7. Centrifuge for 2 minutes to dry pellet. Transfer SPIN Filter to fresh Catch Tube.
8. Add 15 µl GENECLEAN® SPIN Elution Solution to SPIN Filter.
9. Resuspend GENECLEAN® SPIN GLASSMILK® by gently pipetting up and down while stirring.
10. Centrifuge for 30 seconds to transfer eluted DNA to Catch Tube.
11. Discard SPIN Filter and cap the tube.

4.2 Rapid Purification of DNA from TAE or TBE Agarose Gels

1. Shake GENECLEAN® SPIN GLASSMILK® to suspend.
2. Add 400 µl GENECLEAN® SPIN GLASSMILK® to SPIN Filter.
3. Add gel slice to GENECLEAN® SPIN GLASSMILK® in SPIN Filter.
4. Heat to 55°C for 5 minutes to melt gel. Mix every 1-2 minutes.
5. Centrifuge for 1 minute or until liquid is transferred to the Catch Tube. Empty Catch Tube as needed.
6. Add 500 µl of prepared GENECLEAN® SPIN NEW Wash to the filter and centrifuge for 30 seconds. Empty Catch Tube as needed.
7. Centrifuge for 2 minutes to dry pellet. Transfer SPIN Filter to fresh Catch Tube.
8. Add 15 µl GENECLEAN® SPIN Elution Solution to SPIN Filter.
9. Resuspend GENECLEAN® SPIN GLASSMILK® by gently pipetting up and down while stirring.
10. Centrifuge for 30 seconds to transfer eluted DNA to Catch Tube.
11. Discard SPIN Filter and cap the tube.

5. Detailed Protocols

5.1 Rapid Purification of DNA from Solutions

1. Shake GENECLEAN® SPIN GLASSMILK® to suspend.

2. Add 400 µl of GENECLEAN® SPIN GLASSMILK® to SPIN Filter.

3. Add DNA solution to GENECLEAN® SPIN GLASSMILK® in SPIN Filter.
   A maximum volume of 300 µl of DNA solution can be added per filter.
   [***Note:*** GENECLEAN® SPIN can bind up to 5 µg pf DNA/prep. If isolating more than 5 µg of DNA, divide sample into multiple preps.]
   [***Note:*** If purifying DNA from a PCR reaction, dilute the reaction 1:5 if the final Tris concentration in the PCR buffer is >50 mM and has a pH >8.0. If isolating DNA from a PCR reaction containing oil, it is important to remove the oil prior to starting. Spotting the sample onto Parafilm and transferring it 2-3 times prior to adding the GENECLEAN® SPIN GLASSMILK® should remove any trace amounts of oil that might be present.]

4. Incubate at room temperature for 5 minutes. Mix every 1-2 minutes.
   This allows the binding of the DNA to the silica matrix. Mix every 1-2 minutes by tapping the side of the tube with a finger to ensure that the GENECLEAN® SPIN GLASSMILK® stays in suspension.

5. Centrifuge at 14,000 x g for 1 minute or until liquid has emptied into the Catch Tube. Empty Catch Tube as needed.

6. Add 500 µl of prepared GENECLEAN® SPIN NEW Wash to the filter* and centrifuge at 14,000 x g for 30 seconds (or until SPIN Filter is emptied of wash).
   Empty Catch Tube as needed.
   ***VERY IMPORTANT:** Be sure ethanol has been added to the NEW Wash Concentrate before using. See Section 3.1 for instructions.

   Optional: Repeat wash procedure as detailed in Step 6.

7. Centrifuge at 14,000 x g for 2 minutes to dry pellet and transfer SPIN Filter to fresh Catch Tube.

8. Add 15 µl GENECLEAN® SPIN Elution Solution to SPIN Filter.

9. Resuspend GENECLEAN® SPIN GLASSMILK®.
   Carefully resuspend by gently pipetting up and down while stirring the pellet with the pipet tip. The consistency of the pellet is different in prepared GENECLEAN® SPIN NEW Wash than in aqueous solutions and is somewhat resistant to resuspension.
   [***Note:*** If working with DNA >10 kb, use large bore pipet.]

10. Centrifuge at 14,000 x g for 30 seconds to transfer eluted DNA to Catch Tube.
    [***Note:*** A second elution is not necessary or recommended. Repetition of this step will cause the total volume to increase and the concentration of DNA to decrease.]

11. Discard SPIN Filter and cap the tube.
    DNA in solution is now ready to use without further manipulation.

5.2 Rapid Purification of DNA from TAE or TBE Agarose Gels

1. Shake GENECLEAN® SPIN GLASSMILK® to suspend.

2. Add 400 µl GENECLEAN® SPIN GLASSMILK® to SPIN Filter.

3. Add gel slice to GENECLEAN® SPIN GLASSMILK® in SPIN Filter.
   A maximum volume of 300 mg of gel or 5 µg of DNA can be added per filter.

4. Heat to 55°C for 5 minutes to melt gel. Tap the side of the tube with a finger to mix.
   Heat tube in water bath or heat block. Mix every 1-2 minutes by tapping the side of the tube with a finger to ensure that the GENECLEAN® SPIN GLASSMILK® stays in suspension.
   [***Note:*** GENECLEAN® SPIN can bind up to 5 µg pf DNA/prep. If isolating more than 5 µg of DNA, divide sample into multiple preps.]

5 Centrifuge at 14,000 x g for 1 minute or until liquid has emptied into the Catch Tube.
   Empty Catch Tube as needed.

6. Add 500 µl of prepared GENECLEAN® SPIN NEW Wash to the filter* and centrifuge at 14,000 x g for 30 seconds (or until SPIN Filter is emptied of wash).
   Empty Catch Tube as needed.
   VERY IMPORTANT: Be sure ethanol has been added to the NEW Wash Concentrate before using. See Section 3.1 for instructions.

   Optional: Repeat wash procedure as detailed in Step 6.

7. Centrifuge at 14,000 x g for 2 minutes to dry pellet and transfer SPIN Filter to fresh Catch Tube.

8. Add 15 µl GENECLEAN® SPIN Elution Solution to SPIN Filter.

9. Resuspend GENECLEAN® SPIN GLASSMILK®.
   Carefully resuspend by gently pipetting up and down while stirring the pellet with the pipet tip. The consistency of the pellet is different in prepared GENECLEAN® SPIN NEW Wash than in aqueous solutions and is somewhat resistant to resuspension.
   [***Note:*** If working with DNA >10 kb, use large bore pipet.]

10. Centrifuge at 14,000 x g for 30 seconds to transfer eluted DNA to Catch Tube.
    [***Note:*** A second elution is not necessary or recommended. Repetition of this step will cause the total volume to increase and the concentration of DNA to decrease.]

11. Discard SPIN Filter and cap the tube.
    DNA in solution is now ready to use without further manipulation.

6. Common Questions

6.1 Do I need to do anything different when using GENECLEAN® SPIN with high molecular weight DNA (>10 kb)?

Shearing can be a problem for high-molecular-weight DNA, but may be avoided by doing the following: Use a wide-bore pipet and minimize agitations of the GLASSMILK®/DNA pellet. For the wash steps, allow the GENECLEAN® SPIN GLASSMILK® pellet to soak in the SPIN NEW Wash instead of resuspending it. When eluting, gently resuspend the pellet using a wide-bore pipet.

6.2 Does GENECLEAN® SPIN work on all conformations of plasmid DNA?

Yes. If yields are not satisfactory, increasing the binding time and the volume of GLASSMILK® will generally increase recoveries. However, our line of Plasmid Purification Kits would be best-suited for purification of plasmid DNA. See Section 10 for related products.

6.3 Can I substitute GENECLEAN® SPIN NEW Wash Concentrate for other GENECLEAN® Solutions?

No. The wash solutions have different salt concentrations and are prepared differently.

6.4 If I'm using GENECLEAN® SPIN, what do I do if I have more than 5 µg of DNA or a large gel slice?

Because the GENECLEAN® SPIN Filter accommodates up to 400 µl of GENECLEAN® SPIN GLASSMILK®, a normal prep with a single loading of GENECLEAN® SPIN GLASSMILK® is limited to <5 µg DNA. To process larger amounts of DNA, the volume of GENECLEAN® SPIN GLASSMILK® should be scaled up proportionally (e.g. 600 µl for 7.5 µg DNA in a 600 mg gel slice) and the agarose should be melted in a separate tube. Transfer 700 µl to a SPIN Filter, centrifuge at 14,000 x g for 30 seconds and repeat, making sure that the GLASSMILK®/DNA complex is all pelleted on the same side of the filter. Then proceed with the written protocol.

7. Troubleshooting

7.1 Low or No Recovery with the GENECLEAN® SPIN Kit

7.1.1 Problems with Binding

Yields can be affected by insufficient incubation and mixing time during the GLASSMILK®/DNA binding step. Consistent gentle mixing at this step can increase the efficiency by as much as 50%.

Radioactive isotope-labeled DNA may bind irreversibly to the silica. Label Block is available separately for use with any GENECLEAN® Kit. See Section 2.2 for details.

The GENECLEAN® Kits are designed specifically for purification of DNA of length >200 bp. Qbiogene offers the MERmaid® Kit for purification of DNA of length <200 bp. See Section 10.1 for ordering information.

7.1.2 Problems with Washing

DNA may elute in the wash if ethanol was not added to the NEW Wash Concentrate prior to use. Prepare GENECLEAN® SPIN NEW Wash as described Section 3.1.

If the GENECLEAN® SPIN NEW Wash ethanol concentration drops significantly due to evaporation, the DNA may elute in the wash. Store the prepared NEW Wash tightly capped at 15-30° C.

7.1.3 Problems with Elution

DNA will elute from the GENECLEAN® SPIN GLASSMILK® in water, TE, or other low-salt, neutral solutions. If residual GENECLEAN® SPIN NEW Wash is present, the yield may be low and the residual ethanol may interfere with many downstream applications. Be sure to remove all traces of GENECLEAN® SPIN NEW Wash by drying the pellet for 5 minutes prior to elution. A second elution can be done resulting in an additional 10-20% recovery of eluted DNA but this step is not necessary or recommended.

7.1.4 Rapid Kit Reagent – Test Procedure

If yields are less than 50%, this quick test takes 15-20 minutes to determine if the problem is due to reagents or to some other aspect of the procedure.

1. Put 0.5-1 µg of DNA into a final volume of 20 µl H_2O or TE buffer. Place 10 µl into a SPIN Filter.
2. Add 400 µl GENECLEAN® SPIN GLASSMILK® to the SPIN Filter.
3. Incubate for 5 minutes at room temperature with mixing to keep the GENECLEAN® SPIN GLASSMILK® suspended.
4. After 5 minutes, pellet the GLASSMILK®/DNA by centrifugation. Transfer the flowthrough to a new tube and precipitate (step 5).
5. Precipitate any DNA present in the flowthrough by adding 200 µl of water and 500 µl of isopropanol and mix. Centrifuge for 5 minutes. Drain the tube and add 10 µl of water.
6. Add 300 µl NEW Wash and spin. Save the NEW Wash.
7. Spin dry for 2 minutes and transfer the SPIN Filter to a new Catch Tube.

8. Resuspend the pellet in 10 µl TE or H_2O. Spin for 1 minute and save supernatant. Transfer filter to a new Catch Tube.
9. Repeat elution (step 8) a second time. Save this supernatant in a new tube.
10. Run the samples on a 0.8% agarose minigel until the samples migrate 1-2 cm.

Run agarose gel with:
Lane 1: 10 µl DNA from the 10 µl left in step 1 that was not purified with GENECLEAN® SPIN. This equals the amount of DNA that was purified.
Lane 2: 10 µl first elution (step 8).
Lane 3: 10 µl second elution (step 9).
Lane 4: 10 µl NEW Wash (step 6, add Ficoll®, sucrose, or glycerol to keep the NEW Wash in the well).
Lane 5: GENECLEAN® SPIN GLASSMILK® pellet from step 9 resuspended in running buffer.
Lane 6: 10 µl of the precipitated GENECLEAN® SPIN supernatant after GLASSMILK® absorption (step 5).

The results of the gel should show the fate of DNA during the GENECLEAN® SPIN procedure. Most of the DNA should be in the first elution (lane 2), some (approximately 10%) should be in the second elution (lane 3), and none in NEW Wash or guanidine thiocyanate after absorption (lanes 4 and 6, respectively). If DNA is seen in lane 6, this indicates that not all of the DNA bound to the GLASSMILK®. DNA in lane 4 indicates loss during the NEW Wash step. The relative quantities of DNA in each elution will indicate efficiencies during this step. If there is any DNA that would not elute from the GLASSMILK® by diffusion, it may do so by electroelution (lane 5). (Note: GLASSMILK® will fluoresce slightly in the well. This is not DNA). The results of this rapid kit test normally show a recovery of 70% or more in the first elution.

7.1.5 Problems Measuring Yield

DNA yield can be quantified with a fluorometer or estimated by running the sample against a known amount of DNA on an agarose gel. Using a spectrophotometer to quantify DNA yield is not recommended for the following reasons:

1. Residual silica particles (which do not interfere with downstream reactions or uses of the DNA) can scatter UV light, affecting OD_{260} readings and OD_{260}/OD_{280} ratios.
2. After diluting part of your sample up to the minimum volume of the cuvette, the DNA will often be too dilute to give a significant reading. For example, if you eluted 0.5 µg in 20 µl of water and diluted 2 µl of this to 200 µl, the final concentration of DNA in the cuvette would be 0.5 µg/0.02 ml x 0.01=0.25 µg/ml. This would give an absorbance of only 0.005, which is too low to be significant on most instruments.

7.2 Reconstitution of GENECLEAN® SPIN GLASSMILK®

Particles of silica matrix on the cap of the container can prevent an airtight seal that will result in the evaporation of the liquid in the GENECLEAN® SPIN GLASSMILK® vial. To reconstitute the GENECLEAN® SPIN GLASSMILK®, add sterile, distilled water to the container so that the amount of liquid and solid is approximately equal and mix well to fully activate.

7.3 Replacing GENECLEAN® SPIN NEW Wash Solution

The amount of GENECLEAN® SPIN NEW Wash provided is sufficient for 300 preps when the protocol is followed as recommended. If the protocol is changed such that more than 1 ml of prepared GENECLEAN® SPIN NEW Wash Solution are required per prep, a solution of 50% ethanol and 100 mM NaCl will work nearly as well as the proprietary GENECLEAN® SPIN NEW Wash Solution.

8. Recommended Reference Format

DNA was purified from gel or solution using the GENECLEAN® SPIN Kit (Qbiogene, Inc., Carlsbad, California).

9. Supplemental Protocols

9.1 Rapid Isolation of Phage ssDNA

The GENECLEAN® procedure can be incorporated into small-scale, single-stranded bacteriophage DNA isolation protocols. Because phenol/chloroform is usually used to lyse phage, the GENECLEAN® process helps to rid the final DNA preparation of these solvents. The cleaned solution is less inhibitory when added to polymerase or other enzyme reaction mixtures, thus helping to optimize sequencing results.

1. Pellet cells from 1.5 ml of a cell culture producing M13 or other ssDNA phage.
2. Transfer 1 ml of supernatant to new tube. Avoid transferring any host cells to prevent contamination with host cell DNA and RNA.
3. Add PEG solution (20% PEG 8000, 2.5 M NaCl, pH 3.5). Incubate at room temperature for 10 minutes and spin for 10 minutes to precipitate phage.
4. Resuspend small phage pellet in 50 µl of TE.
5. Lyse phage in one of two ways:
    a. Add an equal volume of buffer-saturated phenol, vortex briefly, and spin for 2 minutes. Remove upper phase.
    b. Add 50 µl of formamide, mix, and heat at 55°C for 15 minutes.
    6. Proceed with GENECLEAN® SPIN Protocol for purifiying DNA from solution (Section 5.1) to purify the ssDNA.

9.2 Eliminate BAP, CIP, SAP

After dephosphorylation reactions, incubate reaction tube at 75°C for 15 minutes in a water bath and follow the GENECLEAN® SPIN protocol for purifying DNA from solution (Section 5.1) to eliminate dephosphorylation enzymes.

10. Related Products

10.1 Gel Isolation and Reaction Cleanup Products

Cat. No.	Description	Size
1102-200	GENECLEAN® Turbo Kit	50 preps
1102-400	GENECLEAN® Turbo Kit	100 preps
1103-200	GENECLEAN® Turbo for PCR Kit	50 preps
1103-400	GENECLEAN® Turbo for PCR Kit	100 preps
1001-200	GENECLEAN® Kit	200 preps
1001-400	GENECLEAN® II Kit	300 preps
1001-600	GENECLEAN® III Kit	600 preps
1101-200	GENECLEAN® SPIN Kit	50 preps
1101-400	GENECLEAN® SPIN Kit	100 preps
1104-200	GENECLEAN® Turbo 96 Kit	96 preps
1104-400	GENECLEAN® Turbo 96 Kit	384 preps
1005-200	MERmaid® Kit	200 preps
1105-200	MERmaid® SPIN Kit	25 preps
1105-400	MERmaid® SPIN Kit	75 preps
1105-600	MERmaid® SPIN Kit	150 preps
1007-200	RNaid® Kit	200 preps
1107-200	RNaid® SPIN Kit	200 preps
9903-100	SeqDirect™ PCR Cleaning Kit	16 reactions
9903-200	SeqDirect™ PCR Cleaning Kit	32 reactions
9904-200	SeqDirect™ 96 PCR Cleaning Kit	1 x 96-well plate
2350-200	EtBr GREENBAG™ Disposal Kit	50 bags
2300-604	50xTAE “GENECLEAN Grade™” Electrophoresis Buffer	1.0 L
2305-204	TBE “GENECLEAN Grade™” Electrophoresis Buffer Mix	425 g
2305-304	TBE “GENECLEAN Grade™” Electrophoresis Buffer Mix	1,700 g
2080-600	SPIN Module (Includes #2080-601)	60 F/T
2080-800	SPIN Module (Includes #2080-801)	100 F/T
1001-605	Label Block	1 mL

10.2 GENECLEAN®-Based Genomic DNA Isolation Kits

Cat. No.	Description	Size
6540-400	FastDNA® Kit	100 preps
6560-200	FastDNA® Kit for Soil	50 preps
2010-400	GNOME® DNA Isolation Kit	25 preps
2010-600	GNOME® DNA Isolation Kit	100 preps
2011-600	GNOME® Whole Blood DNA Isolation Kit	100 preps
2012-400	FLORACLEAN® Kit	25 preps

1002-200	GENECLEAN® for Ancient DNA Kit	100 preps
2016-200	Whole Cell Yeast PCR Kit	200 preps
2015-600	Yeast Cell Lysis Kit	100 preps
2055-400	λQuick!® Kit	25 preps
2065-200	ssPHAGE™ DNA SPIN Kit	60 preps

10.3 Plasmid Purification Products

Cat. No.	Description	Size
2066-200	RapidPURE™ Plasmid Mini Kit	60 preps
2066-400	RapidPURE™ Plasmid Mini Kit	120 preps
2066-600	RapidPURE™ Plasmid Mini Kit	300 preps
2067-200	RapidPURE™ Plasmid Mini 96 Kit	96 preps
2067-400	RapidPURE™ Plasmid Mini 96 Kit	192 preps
2070-200	RPM® Kit	60 preps
2070-400	RPM® Kit	120 preps
2070-500	RPM® Kit	300 preps
2069-400	Yeast RPM® Kit	100 preps
2000-200	MiniPrep Express™ Matrix	1,250 preps
2002-200	96well Prep Express	384 preps
2005-200	RapidPURE™ Plasmid Midi Kit	25 preps
2005-400	RapidPURE™ Plasmid Midi Kit	75 preps
2005-600	RapidPURE™ Plasmid Midi Kit	150 preps
2076-200	RapidPURE™ Plasmid Maxi GF Kit	20 preps
2073-200	RapidPURE™ Plasmid Maxi GF Reagent Kit	20 preps
2074-200	RapidPURE™ Plasmid Maxi GF Endo Free Kit	10 preps
2078-200	RapidPURE™ Plasmid Giga Kit	12 preps

10.4 TRIPLE CHECK® Tips

Cat. No.	Description	Size
5030-121	TRIPLE CHECK® Tips (non-sterile)	Bag of 500
5030-141	TRIPLE CHECK® Tips (non-sterile)	Bag of 1,000
5030-151	TRIPLE CHECK® Tips (non-sterile)	Bag of 5,000
5030-221	TRIPLE CHECK® Tips (non-sterile)	Box of 250
5030-241	TRIPLE CHECK® Tips (non-sterile)	Box of 500
5030-321	TRIPLE CHECK® Tips (non-sterile)	4 racks of 96
5030-331	TRIPLE CHECK® Tips (non-sterile)	10 racks of 96
5030-322	TRIPLE CHECK® Tips (sterile)	4 racks of 96
5030-332	TRIPLE CHECK® Tips (sterile)	10 racks of 96

11. Product Use Limitation & Warranty

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