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MagAttract[®] Magnetic Rack Handbook

For convenient separation of magnetic beads
in 2 ml tubes



Sample & Assay Technologies

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Kit Contents

MagAttract Magnetic Rack	
Catalog no.	19606
Magnetic base	1
Tube holder	1
Adaptor plate	1

Intended Use

The MagAttract Magnetic Rack is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

All due care and attention should be exercised in the handling of the products. We recommend all users of QIAGEN® products to adhere to the NIH guidelines that have been developed for recombinant DNA experiments, or to other applicable guidelines.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets (SDSs). These are available online in convenient and compact PDF format at www.qiagen.com/safety where you can find, view, and print the SDS for each QIAGEN kit and kit component.



CAUTION: Strong magnetic field can affect users with pacemakers or any other medical magnetized implant. Keep away from magnetic media (e.g., computers, video tapes, or credit cards).

24-hour emergency information

Chemical emergency or accident assistance is available 24 hours a day from:
CHEMTREC

USA & Canada ■ Tel: 1-800-424-9300

Outside USA & Canada ■ Tel: +1-703-527-3887 (collect calls accepted)

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of the MagAttract Magnetic Rack is tested against predetermined specifications to ensure consistent product quality.

Introduction

The MagAttract Magnetic Rack is a convenient separation device for nucleic acid purification using magnetic beads (e.g., MagAttract Suspension G) in 2 ml tubes. The beads are pulled to the side of the 2 ml tube by a magnetic field, which has a strength of >50 megaoersted, and are held in place while solutions are exchanged or removed. Removal of the magnetic field allows easy resuspension of the magnetic particles.

Principle and procedure

The MagAttract Magnetic Rack consists of 3 separate components in total: a tube holder, a magnetic base, and an adapter plate (see Figure 1). The MagAttract Magnetic Rack is designed for handling up to 12 samples in parallel in 2 ml reaction tubes. The magnetic bead-based purification is performed on a standard laboratory shaker (e.g., Eppendorf® Thermomixer) suited for the shaking of reaction tubes, as well as microtiter plates in SBS format. The tube holder of the MagAttract Magnetic Rack is fixed onto the shaker by the SBS adapter plate.

The 2 ml reaction tubes are plugged into the tube holder of the MagAttract Magnetic Rack. Up to 12 sample tubes fixed to the tube holder are then transferred in a single step to a 24-well block of the shaker. The tube holder with 2 ml sample tubes perfectly fits onto, for example, the Eppendorf Thermomixer 24-well block for 1.5 ml tubes. If using a 24-well block for 2 ml tubes, note that the tube holder of the MagAttract Magnetic Rack could slip out of the block at high shaker speed during wash steps.

To use a shaker suited for the shaking of microtiter plates in SBS format, the adapter plate of the MagAttract Magnetic Rack has to be fixed onto the shaker first. The tube holder of the MagAttract Magnetic Rack (with up to 12 reaction tubes) is then attached to adapter plate of the MagAttract Magnetic Rack.

The magnetic beads are easily separated by removing the tube holder from the shaker and placing it onto the magnetic base. Magnetic beads are separated by strong magnets in <1 minute. Supernatants can be easily removed by pipetting.

The MagAttract Magnetic Rack can be used to conveniently process the MagAttract HMW DNA Kit for isolation of high-molecular-weight genomic DNA weight (see Figure 2).

Important Notes

The MagAttract Magnetic Rack units can be cleaned using a damp cleaning tissue and mild detergent. Disinfect the units using disinfectant wipes or spray. Do not submerge in alcoholic or organic solutions. Do not autoclave the MagAttract Magnetic Rack.

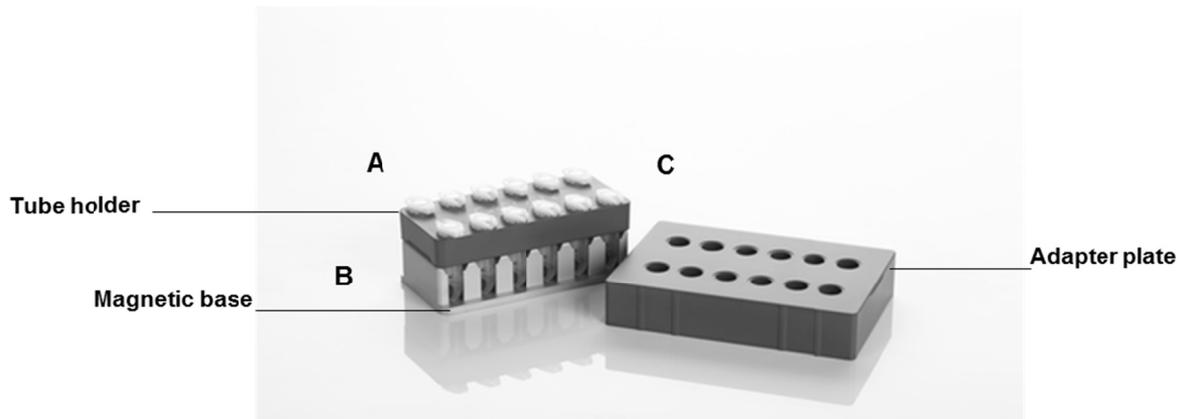


Figure 1. Convenient parallel processing of up to 12 samples with the MagAttract Magnetic Rack. The MagAttract Magnetic Rack has a removable tube holder that perfectly fits onto the Eppendorf Thermomixer or common microtiter plate mixers using the included adapter plate. The MagAttract Magnetic Rack renders tedious processing of individual tubes unnecessary. **A** Tube holder with 12 x 2 ml reaction tubes on a **B** magnetic base. **C** Adapter plate.



Figure 2. The MagAttract HMW DNA Kit.

Protocol: Using the MagAttract Magnetic Rack

The MagAttract Magnetic Rack enables separation of high-molecular-weight DNA from different sample types. Convenience is assured as the hands-on time required for processing is reduced compared to other existing magnetic bead- or spin-column-based purification methods. Up to 12 samples can be handled in parallel by easily inserting the 2 ml sample tubes into the tube holder of the MagAttract Magnetic Rack.

Procedure

- 1. Transfer the MagAttract Magnetic Rack tube holder, with 2 ml sample tubes, in a single step to the laboratory shaker and plug into its 24-well block for 1.5 ml tubes to allow shaking during binding, washing, and elution steps.**

Compared to other existing magnetic bead-based purification procedures where each sample tube has to be transferred individually, this one-step procedure extensively reduces the hands-on time required for sample processing.

IMPORTANT: If using a 24-well block for 2 ml tubes, note that the MagAttract Magnetic Rack tube holder could slip out of the block at high shaker speeds during wash steps.

- 2. To use a laboratory shaker for the shaking of microtiter plates in SBS format, the MagAttract Magnetic Rack adapter plate must be fixed onto the shaker first.**
- 3. Transfer the MagAttract Magnetic Rack tube holder, with samples tubes, to the laboratory shaker by plugging into the MagAttract Magnetic Rack adapter plate.**

Note: To remove the MagAttract Magnetic Rack tube holder from the MagAttract Magnetic Rack adapter plate, we recommend pressing down the adapter plate with one hand while pulling out the tube holder with the other hand.

- 4. To remove supernatants from the sample tubes, transfer the MagAttract Magnetic Rack tube holder to the magnetic base.**

While the magnetic beads are separated and fixed to the magnets, we recommend leaving the magnetic base with the tube holder on the lab bench and tilting it slightly backwards to easily see the pellet. Supernatants can be easily removed by pipetting.

- 5. Use the MagAttract Magnetic Rack adapter plate as a stand for the tube holder with sample tubes when removing it from the magnetic base.**

- 6. To increase the efficiency of the wash step, remove the MagAttract Magnetic Rack tube holder from the magnetic base before adding the wash buffer.**
Add the wash buffer directly onto the magnetic bead pellet.

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. For more information, see also the Frequently Asked Questions page at our Technical Support Center: www.qiagen.com/FAQ/FAQList.aspx. The scientists in QIAGEN Technical Services are always happy to answer any questions you may have about either the information and protocols in this handbook or sample and assay technologies (for contact information, see back cover or visit www.qiagen.com).

Comments and suggestions

The tube holder slips out of the laboratory shaker

- a) Number of tubes
- We recommend using a minimum of 4 sample tubes. These should be placed at outer corner positions (1, 6, 7, and 12) of the MagAttract Magnetic Rack tube holder in combination with the 24-well block for 1.5 ml tubes. If working in combination with the adaptor plate and the tube holder on an SBS adapter, we recommend using the inner positions (3, 4, 9, and 10).
- If <4 samples are processed, add empty 2 ml tubes to stabilize the setup.
- If any slippage problems occur with the MagAttract Magnetic Rack tube holder, add empty 2 ml tubes to each position of the tube holder.
- b) Adaptation of the shaker
- When using a shaker with a 24-well block for 2 ml tubes instead of a 24-well block for 1.5 ml tubes, the risk of the tube holder slipping out of the block is higher. Therefore, we strongly recommend the use a shaker with a 24-well block for 1.5 ml tubes. If a shaker with a 24-well block for 2 ml tubes has to be used, tube holder slippage problems can be avoided by using adhesive tape to secure the MagAttract Magnetic Rack tube holder.

Comments and suggestions

If the MagAttract Magnetic Rack adapter plate slips out of an SBS adapter during shaking at high speeds, secure the setup either by attaching adhesive tape onto the SBS adapter of the shaker to reduce the inner dimensions of the SBS adapter or by attaching the adhesive tape on the side of the MagAttract Magnetic Rack adapter plate to increase the outer dimensions of the adapter plate.

Ordering Information

Product	Contents	Cat. no.
MagAttract Magnetic Rack	Magnetic rack for convenient parallel processing of up to 12 samples	19606
MagAttract HMW DNA Kit (48)	For 48 DNA preps: MagAttract Suspension G, Buffer ATL, Buffer AL, Buffer MB, Buffer MW1, Buffer PE, Proteinase K, RNase A, Buffer AE, Nuclease-Free Water	67563
Related products		
QIAGEN GeneRead™ Kits — for next-generation sequencing applications		
QIAGEN GeneRead Size Selection Kit (50)	For 50 reactions: Spin columns and buffers	180514
QIAGEN GeneRead DNA Library I Core Kit (12)	For 12 reactions: Buffers and reagents for end-repair, A-Addition, and ligation, for use with Illumina® instruments	180432
QIAGEN GeneRead DNA Library L Core Kit (12)	Buffers and reagents for end-repair, ligation, and nick-repair, for use with Life Technology instruments	180462
QIAGEN GeneRead DNA I Amp Kit (100)	For 100 reactions: Buffers and reagents for library amplification, for use with Illumina instruments	180455
QIAGEN GeneRead DNA L Amp Kit (100)	Buffers and reagents for library amplification, for use with Life Technology instruments	180485
QIAGEN GeneRead Adapter I Set 12-plex (72)	12 barcoded adapters for ligation to DNA library, for use with Illumina instruments	180984
QIAGEN GeneRead Adapter L Set 12-plex (72)	12 barcoded adapters for ligation to DNA library, for use with Life Technology instruments	180994
QIAGEN GeneRead DNAseq Gene Panels	Wet-bench verified primer sets for targeted exon enrichment	180941

Product	Contents	Cat. no.
QIAGEN GeneRead DNAseq Gene Panels High-Content	Wet-bench verified primer sets for targeted exon enrichment	180942
QIAGEN GeneRead Custom DNAseq Gene Panels	Primer sets for customized targeted exon enrichment	180946
QIAGEN GeneRead Mix-n-Match DNAseq Gene Panels	Primer sets for customized targeted exon enrichment, selected from QIAGEN's laboratory-verified primer sets	180944
QIAGEN GeneRead DNAseq Library Quant Array	PCR arrays and components for library quantification	180601

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Notes

Trademarks: QIAGEN®, QIAGEN GeneRead™, MagAttract® (QIAGEN Group); Eppendorf® (Eppendorf AG); Illumina® (Illumina, Inc.).

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