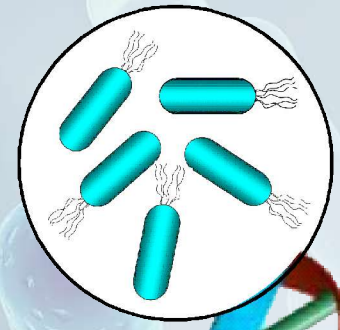
geneMAG-DNA / *Bacteria*

the magnetic DNA purification kit



For isolation of genomic DNA from bacteria with magnetic beads

chemicell

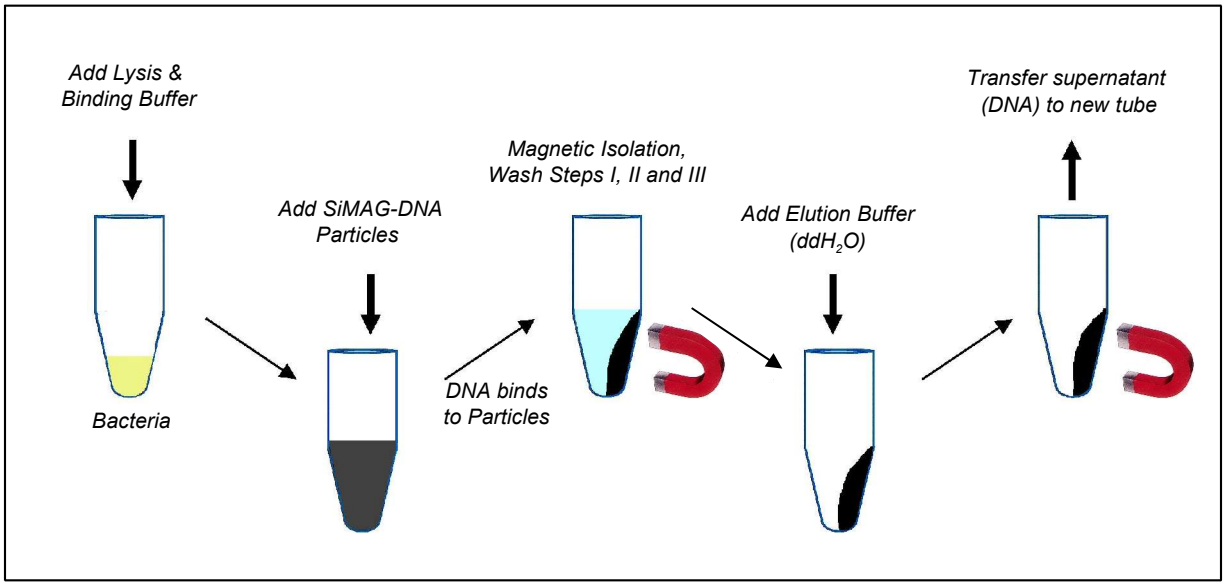
NEW TOOLS IN BIOSCIENCES

Technology

The **geneMAG-DNA / *Bacteria*** kit is a novel, simple and highly efficient tool for the isolation of genomic DNA from bacteria with magnetic silica beads.

The lysis and binding of DNA is carried out under non-chaotropic conditions with the Lysis & Binding Buffer. The wash steps with Wash Buffer I, II and III guarantee a clean DNA which is suitable for PCR reactions or other biochemical applications.

geneMAG-DNA / *Bacteria* is highly suitable for a variety of automatization platforms since it requires no centrifugation or vacuum filtration procedures.



Products

Kits	Contents	Number of isolations	Price Euro/US$
geneMAG-DNA / Bacteria 15 (Cat. No.: 3101-15)	• 15 ml Lysis & Binding Buffer • 30 ml Wash Buffer I • 1.5 ml SiMAG-DNA Beads	15 preps per 10^9 bacteria	40 / 52
geneMAG-DNA / Bacteria 100 (Cat. No.: 3101-100)	• 100 ml Lysis & Binding Buffer • 200 ml Wash Buffer I • 10 ml SiMAG-DNA Beads	100 preps per 10^9 bacteria	220 / 286
geneMAG-DNA / Bacteria 500 (Cat. No.: 3101-500)	• 500 ml Lysis & Binding Buffer • 1000 ml Wash Buffer I • 50 ml SiMAG-DNA Beads	500 preps per 10^9 bacteria	900 / 1170

Reagents and Equipment to be Supplied by the User

- **Wash Buffer II**: 70% Ethanol or 70% Isopropanol
- **Wash Buffer III and Elution Buffer:** ddH_2O
- **Vortex mixer** and **heating block** or water bath (60°C), **magnetic separator**

Storage

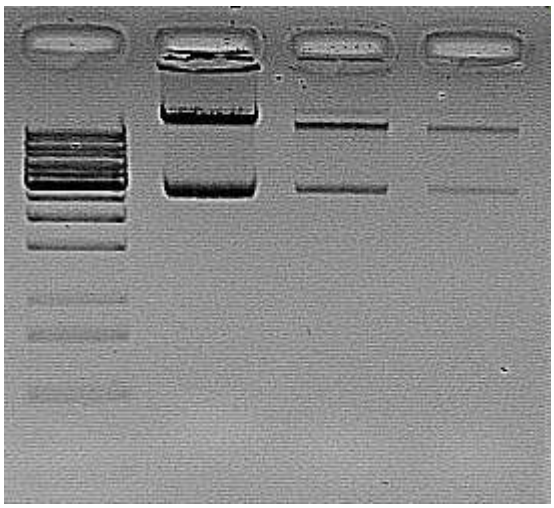
The kit compounds are stable at room temperature. If there are salt precipitates in the Lysis/Binding Buffer or Wash Buffer I dissolve these precipitates by warming in a water bath.

Safety Note

Lysis & Binding Buffer and **Wash Buffer I** contain chaotropic salts, which are irritant. Take appropriate laboratory safety measures and wear gloves when handling.
Avoid skin and eye contact

Bacteria cells	10^2	10^4	10^9
Lysis & Binding Buffer	250 µl	500 µl	1000 µl
SiMAG-DNA	25 µl	50 µl	100 µl
Wash Buffer I 2x	500 µl	500 µl	1000 µl
Wash Buffer II 1x	500 µl	500 µl	1000 µl
Wash Buffer III 1x	500 µl	500 µl	1000 µl
Elution Buffer* (ddH_2O)	100 - 400 µl	100 - 400 µl	100 - 800 µl

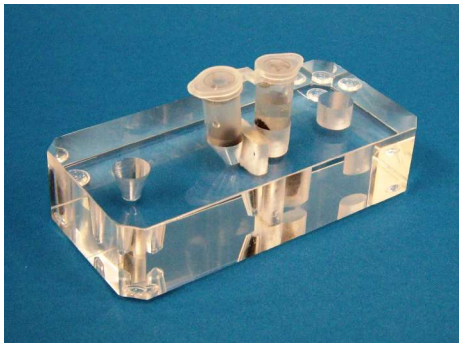
*We recommend ddH_2O for elution, alternatively 10 mM Tris-HCl, pH 8.0 or TE-Buffer, pH 8.0



Agarose gel (1%) analysis of genomic DNA from Bacteria (e.g. E.*coli*) (Data kindly provided by Cengiz Öztürk, Charité, University Hospital of Humboldt-University to Berlin, Germany)

Utensils for magnetic DNA purification

The **MagnetoPURE** separator is specially designed for magnetic separation of DNA/RNA in 1.5 ml and 2 ml tubes. The position of the high powerful magnet guaranties fast and easy separation of the magnetic particles.



MagnetoPURE

MagnetoPURE BIG SIZE

Separator	Cat. No.:	Price Euro/US$
MagnetoPURE	MP-10	65 / 85
MagnetoPURE BIG SIZE	MP-20	350 / 460

SPECIAL OFFER

As an introductory offer you will recieve a **geneMAG-DNA 15** kit for free in combination with the purchase of the **MagnetoPURE** separator.

SPECIAL OFFER:	Cat. No.:	Price Euro/US$
MagnetoPURE **geneMAG-DNA 15**	3101-SO	65 / 85

Protocol

This protocol describes the isolation of genomic-DNA from 10^9 bacteria cells.

1. Add 1.5 ml of cultured cells (approx. 10^9 cells) into a 1.5 ml microcentrifuge tube.

2. Centrifuge for **2 minutes** at 11,000 x g to pellet the cells. Discard the supernatant.

3. Add 1000 µl **Lysis & Binding Buffer** to the cell pellet and vortex for 30 seconds.

4. Add 100 µl **SiMAG-DNA** silica beads, vortex and incubate for 2-5 minutes at room temperature.

Tip: *Resuspended the magnetic beads completely before use by vortexing*

5. Place the tube on a magnetic separator for 1 minute and collect the bead/DNA-pellet. Remove and discard the supernatant.

Tip: *Some of the solution with beads will end up in the cap of the tube. The tube can be tipped or turned upside down, while placed in the magnet, to wash down the beads trapped in the cap.*

6. Add 1 ml **Wash Buffer I** and vortex at room temperature. Collect the bead/DNA-pellet for 1 minute with the magnet, remove and discard the supernatant. Repeat washing step **once**.

7. Add 1 ml **Wash Buffer II** and vortex for 5 seconds. Collect the bead/DNA-pellet for 1 minute with the magnet, remove and discard the supernatant. Repeat washing step **once** with **Wash Buffer III**.

Attention: *Wash Buffer III and Elution Buffer is same, therefore during the wash process vortex for 1 second.*

8. Add 100 µl **Elution Buffer (ddH_2O)**, vortex and incubate for 10 minutes at 60 °C in a thermo-mixer and vortex the tube from time to time for the complete resuspension of the pellet.

Tip: *Complete resuspension of the pellet is important to recover high yields of DNA. Repeat mixing (vortex) during the incubation step.*

9. Collect the beads with the magnet and transfer the solution with the eluted DNA to a new clean tube. If the solution is not clear repeat the step.

Tip: *The isolated DNA can be stored at 2-8 °C in a refrigerator, but for a long term storage - 20 °C is recommended.*

Trouble - Shooting

1. Low yield

a) The DNA is not completely eluted from the magnetic beads. Repeat the vortexing and place the tube in a thermo-mixer at 60 °C. The bead/DNA pellet must be resuspended for a complete DNA elution.

b) The magnetic beads are not completely resuspended before adding to the lysate (step 3). Therefore too low particle concentration for binding of DNA. Vortex the SiMAG-DNA silica particles and resuspended the particle sediment completely.

2. Precipitate in the reagent bottle

Bottels stored below room temperature. Warm reagent bottle in water bath to redissolve precipitate.

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