后运行程序。注意: 为了获得最佳的结果请洗涤2～3次,洗脱1次。

本仪器一次最多可处理32个样本，并且设置了多个缺省程序。如果您对NPA-32有兴趣，请致电Bioflux 技术服务部门。

注意事项：由于方法上的特殊性OD数值可能高于预期而不能真实反映纯化效果，请结合电泳结果综合进行评价.如果有任何问题,请致电Bioflux技术服务部门。

附录 Ⅲ

FAQ

Q1: MagaBio 核酸纯化系统与其它具有相同应用的已面世的磁珠产品有何不同?

A:

I. 大多数以磁珠为基础的核酸产品使用的是硅磁性颗粒/微粒子，它们对核酸的结合能力低下。

II. 它们对核酸的亲和力有限，因为在洗涤过程中需要使用有机溶剂比如乙醇。

III. 有些产品需要两种洗涤液。

IV. 其它类型的以磁珠为基础的核酸纯化方法依赖于抗体反应或其它的生物基质，需要加热以使结合物失活将核酸释放出来，而且由于需要免疫化学反应，它们的应用范围有限。

Q2: MagaBio 磁珠粒子的结合能力是多少?

A: 在有结合液而无任何离液盐或是去污剂的情况下，1 mg 的 MagaBio 磁珠粒子可以结合 500 μg 的小牛胸腺 DNA。

Q3: MagaBio 核酸纯化系统需要使用有机溶剂吗？

A: 不需要，MagaBio 核酸纯化试剂盒的试剂对环境是无害的。

Q4:使用 MagaBio 全血基因组 DNA 纯化试剂盒的预期产量是多少?

A:使用 MagaBio 全血基因组 DNA 纯化试剂盒和 200 μl 新鲜血液，预期可以获得 5～12 μg (25～60 μg/ml)的 DNA。

Q5: MagaBio 全血基因组 DNA 纯化试剂盒纯化的 DNA 片段大小是多少?

A: 这与应用有关。使用 MagaBio 全血基因组 DNA 纯化试剂盒从血液样品中纯化的 DNA 大小大于 20kb。

Q6: MagaBio 全血基因组 DNA 纯化试剂盒纯化得到的 DNA 可以冷冻保存吗？

A: 可以。在-20°C 中储存 2 年以后不会观察有明显的 DNA 损失。

Q7: MagaBio 核酸纯化的操作过程中需要对洗脱液加热吗？

A: 不需要。

Q8: 现在可以获得多少种 MagaBio DNA 纯化试剂盒？都有哪些应用？

A: 目前有 5 种 MagaBio DNA 纯化试剂盒用于大部分样品的 DNA 提取。在裂解之后所有类型的 MagaBio DNA 纯化试剂盒的纯化过程都是相同的，因而 MagaBio DNA 纯化试剂盒使用方便并且易于自动化。

MagaBio Blood Genomic DNA Purification Kit

MagaBio 全血基因组 DNA 纯化试剂盒

Cat＃ BSC08M2

TECHNICAL SUPPORT:
For technical support, please dial phone number ：
0086-571-87774567-5278 or 5211, or fax to 0086-571-87774303
email to reagent@bioer.com.cn.
Website: www.bioer.com.cn

Appendix Ⅰ

DNA purification evaluation

DNA yield is determined by measuring the concentration of DNA in the eluate by its absorbance at 260 nm. Absorbance readings at 260 nm should fall between 0.1 and1.0 to be accurate.

Two formulations involved in DNA quantification is shown below:

Concentration of DNA sample = 50 μg/ml x *A*260 x dilution

Ratio=(A260-A320)/(A280-A320)

For accurate values, we recommend measuring absorbance in 10 mM Tris·HCl, pH 7.5.

Inhibitor and iron contaminant can be evaluated by the following PCR, real-time PCR, Southern ,or other experiments.

Appendix Ⅱ

The semi automation purification

With semi-automation machine, the Kit is deeply suitable for several samples, which supply a really platform of automation or streamline protocol and achieve high-throughput and high-speed but effective purification. An example for applying the kit on our product NPA-32:

- Sample processing

  Add sample to 96 deep well plate. The processing method is the same to the above.

  Note: When vortexing the plate please use special rotator, When Incubating at 56℃ please use special incubator.

- MagaBio adsorption

  Add 250 μl of the Binding Buffer followed by 10μl of the **well-mixed** (particles are uniformly suspended) MagaBio Reagent. Vortex the plate for 30 seconds or so.

  Note: when vortexing the plate please use special rotator, and the time need longer.

- Add 600μl washing buffer and 100μl elution buffer to the following well in turn, and add ddH_2O to the last well .then run the program.

  Note: Please wash 2 or 3 times and elute 1 time in order to acquire the maximal result.

  At one time the NPA-32 can process 32 samples at most, have many the default setting programs. If any interest please contact Bioflux Technical service immediately

Note: The OD value is probably higher than the anticipation because of the special method, which hardly impress the downstream application. You can estimate the result based on the electrophoresis. If any question, please contact Bioflux Technical service immediately.

AppendixⅢ

FAQ

Q1: How does the MagaBio Nucleic Acid Isolation System differ from other existing magnetic products for the same applications?

A:

I. A majority of magnetic-based nucleic acid isolation products use silica magnetic Particles / beads which they inherently have low capacity for nucleic acids.

II. They appear to have low affinity for nucleic acids, since organic solvents such as ethanol are required during the washing steps.

III. Some require two different wash buffers.

IV. Other magnetic-based nucleic acid isolation products depend on antibody(ies) reaction or binding to other biological substance(s) that may require heat (up to 80°C) to inactivate the binders and liberate the nucleic acid. Also because of the requirement for an immunochemical reaction, they have limited applications.

Q2: What is the capacity of MagaBio magnetic particles?

A: 1 mg of **MagaBio** can bind up to 500 μg of calf thymus **DNA** with the Binding Buffer and without any chaotropic agents or detergents.

Q3: Does MagaBio Nucleic Acid purification System use an organic solvent?

A: No.The **MagaBio** Nucleic Acid purification kits reagents are environmental-friendly.

Q4: What is the expected typical DNA yield using MagaBio Blood Genomic DNA Purification kits?

A: Using **MagaBio Blood Genomic DNA Purification Kit** and 200 μl of fresh whole blood, the DNA yield of 5-12 μg (25-60 μg/ml) is expected.

Q5: What is the size of DNA isolated with the MagaBio DNA Isolation kit?

A: It depends on the application. With the **MagaBio Blood Genomic DNA Purification Kit** for genomic **DNA** isolation from i.e., blood, the purified **DNA** size is >20Kb.

Q6: Could DNA purified by MagaBio Blood Genomic DNA Purification Kit be save in frozen conditon?

A: Yes. After two years storage at -20°C, no significant loss of **DNA** has been observed.

Q7: Does MagaBio Nucleic Acid purification protocol require heating for elution of the purified nucleic acid?

A: No.

Q8: How many types of MagaBio DNA purification Kits are available? What applications are currently available?

A: There are only five types of **MagaBio DNA** purification kits that can be used to purification DNA from your entire sample source. The purification protocols for all three types of MagaBio kits are the same after the lysis step. This makes the **MagaBio** DNA purification Kit user-friendly and automation-friendly product.

试剂盒内容 (100T)

组成	数量
Protease K (PK)	1.0ml
Lysis Buffer	10.0ml
Binding Buffer	25.0ml
Wash Buffer	90.0ml*2
Elution Buffer	10.0ml
MagaBio Reagent	1.0ml
使用手册 V1.0	1copy

储存条件

- PK 储存于 2～8℃,其它所有试剂均储存于室温。
- 如果储存得当,可以稳定保存 12 个月。

试剂盒简介

本产品提供一个分离高质量质粒 DNA 的简单，快速，高效的技术。使用一个简单的操作程序可以从各种样本中分离出高产量的纯化 DNA，包括全血，分离的白细胞等。MagaBio 样品处理基于拥有专利的磁珠微粒子-- MagaBio。纯化 DNA 可以广泛应用于 PCR， 测序，Southern 杂交，突变分析，SNP 及其它常见的分子生物学下游应用。

根据磁珠与核酸特殊的相互作用，MagaBio 核酸分离系统采用了一个通用的分离程序---样品处理，MagaBio 磁珠吸附，洗涤和洗脱，而且可以同时高通量的处理多个样品。

核酸纯化原理和优势

样品中的 DNA 在裂解液和蛋白酶 K 的作用下被释放出来，在结合液的存在下，释放出来的 DNA 特异性的结合在磁珠上，结合了 DNA 的磁珠粒子被磁性材料捕获，通过 2～3 次的洗涤过程将污染物除去，最后在洗脱液的作用下 DNA 从磁珠上被洗下而被收集。

MagaBio 磁珠法纯化核酸具有**巨大优势**：微量样本,高效纯化；简单和流水线般的操作过程；适用于自动化；首次洗脱可获得 85%或更多；无需有机溶剂；无需高盐溶液；无抑制物混杂；无需离心柱；除了样本处理过程,均无需离心。

重要提示

1. 一般情况下，第一次洗脱能回收 DNA 总量的 85%以上，如果有必要，可进行第 2 次洗脱获得更多的 DNA。
2. 如果需要清除基因组 DNA 中的 RNA 污染，在加入裂解液前先加 2ul RNA 酶（10mg/ml）到样品中。
3. 一般情况下，使用本试剂盒从全血中分离的 DNA 大小约为 20～30kb。该长度的 DNA 在 PCR 反应中完全变性并可以高效扩增。

Important Notes

- Typically, >85% of the DNA is recovered in the first elution. If desired, more DNA can be recovered by applying a second elution.
- For RNA-free genomic DNA preparation, 2µl of an RNase A stock solution (10 mg/ml) should be added to the sample before addition of the Lysis Buffer.
- The DNA isolated from whole blood, using the conditions described in the Kit, typically shows an approximate size of 20-30 kb. DNA fragment of this length denatures completely during thermal cycling and can be amplified with the highest efficiency.
- Occasionally a tint of yellow color may be observed in the DNA isolated from whole blood. This will not affect the downstream processing such as PCR and sequencing.

Protocol

⊕ Sample processing

- Equilibrate all reagents and samples to room temperature.
- Pipet 10µl of PK Solution into the bottom of a 1.5 ml microcentrifuge tube.
- Add 100µl of sample to the microcentrifuge tube from the above.
- Add 100µl of the Lysis Buffer to the sample from the above and mix by pulse-vortexing for 15 seconds.
- Incubate at 56℃ for 10 minutes.
- Remove the tube from 56℃.

⊕ MagaBio adsorption

- Add 250 µl of the Binding Buffer followed by 10µl of the **well-mixed** (particles are uniformly suspended) MagaBio Reagent.
- Mix the tube gently and incubate for 10 minutes at room temperature, while mixing .
  Note: Using an end-over-end rotator or manual mixing every 2-3 minutes.
- Sediment the MagaBio DNA bound particles using a magnetic rack. Aspirate the supernate, remove the tube from the magnetic rack and wash the particles as described below.

⊕ Washing

- Add 500 µl of Wash Buffer to the tube from the above. Mix well by inverting the tube several times to ensure the particles are completely dispersed. Sediment the particles on the magnetic rack and aspirate the supernate.
- Remove the tube from the magnetic rack and repeat washing once more following the above step.

⊕ Elution

- Add 100~200µl of Elution Buffer and mix for 10 minutes.
  Note: vortex gently every 2～3 minutes.
- Sediment the particles on the magnetic rack and carefully transfer the supernate containing the isolated DNA into a clean tube. The material is ready for further analysis. If the isolated DNA sample is not going to be tested on the same day, freeze at -20℃ until the time of analysis.

Kit Components (100T)

Component	Amount
Protease K (PK)	1.0ml
Lysis Buffer	10.0 ml
Binding Buffer	25.0ml
Wash Buffer	90.0ml*2
Elution Buffer	10.0ml
MagaBio Reagent	1.0ml
Handbook V2.0	1copy

Storage

- The Protease K is to be stored at 2~8℃,others at room temperature.
- All reagents, when stored properly, are stable for 12 months from the time of delivery.

Introduction

The Kit provides a very simple, fast and cost effective technique to isolate high quality DNA. Using one simple protocol, high yield of purified DNA can be isolated from various sources including whole blood, leukocytes cells. MagaBio sample processing is based on proprietary magnetizable particles--MagaBio. The pure DNA can be applied extensively in PCR, sequencing, Southern hybridization, mutant analysis, SNP and the others.

According to the special interaction, use MagaBio nucleic acid separation system with a general protocol---sample processing, MagaBio adsorption, washing and elution, and can go high-throughput.

Principle and Advantage

DNA in the sample is liberated using Protease K (PK) and Lysis Buffer. Released DNA is bound exclusively and specifically to the MagaBio Reagent in presence of Binding Buffer. The DNA bound to MagaBio particles is captured by the magnet and contaminants are removed by washing with Wash Buffer once or more. The DNA is then eluted from the particles with Elution Buffer or molecular grade water.

MagaBio Magnetic technical have great advantages:

- Mini sample, and high purification
- Simple and streamline separation procedure, used for auto-platform
- First elution can acquire 85% or more
- No organic solvent
- No high salt solution. no inhibitor
- No spin column, no centrifuge

4 从全血中分离 DNA 时可能会观察到浅黄色的悬浮物，但这并不影响下游过程比如 PCR 和测序。

操作规程

1 在室温下准备好所有试剂和样品。
2 加10μl PK到无菌1.5ml微量离心管底部。
3 加入100μl样品。
4 加入100μl Lysis Buffer，脉冲式振荡混合15秒,切勿将离心管倒置振荡。
5 56℃水浴孵育10分钟。
6 将离心管从56℃水浴移开。
7 加入250μl Binding Buffer后,立即加入10μl混合均匀的MagaBio Reagent。
8 轻柔的混合离心管，在室温下放置10分钟，（每隔2～3分钟使用旋转振荡器或者手动混匀）。
9 使用磁性分离架使结合了DNA的磁珠沉淀，吸弃上清，从磁性分离架上移开离心管。
10 加500μl Wash Buffer到已经吸弃上清的离心管，颠倒离心管数次以确保磁珠完全分散，使用磁性分离架使结合了DNA的磁珠沉淀，吸弃上清。
11 从磁性分离架上移开离心管，按照第10步重新洗涤一次。
12 加100～200μl Elution Buffer轻柔地混合离心管，在室温下放置10分钟，注意：每隔2～3分钟轻柔混匀。
13 使用磁性分离架使磁珠沉淀，小心转移含有分离的DNA的上清到一个干净的离心管，放入-20 ℃ 保存备用。

附录Ⅰ

DNA 纯化效果评价

通过测定洗脱液中 DNA 的 A260 来确定 DNA 产量，通常情况下 A260 值在 0.1～1.0 之间数据比较可信。

下面是 DNA 纯化效果的计算方法：

DNA样本的浓度= 50 μg/ml×*A*260×稀释度

Ratio=(A260-A320)/(A280-A320)

为了获得准确的结果我们推荐在 10 mM Tris·HCl, pH 7.5 中测定 DNA 的吸光度数值。

各种抑制物或离子污染物可以通过 PCR，实时定量 PCR，Southern 杂交或是其它的实验来评价。

附录Ⅱ

自动化提取简介

使用自动提取仪器，MagaBio全血基因组DNA纯化试剂盒非常适合于多个样本的处理,因为本试剂盒提供了一个真实的自动化平台或是流水线的操作程序,而且可以获得高通量,高速而有效的纯化。以本公司生产的NPA-32为例：

- 样本处理：将样品加到96孔深孔板，处理过程与手工提取一致，注意：请使用专用的振荡器和专用的温浴器56度温浴。
- 磁珠吸附：将样本混合物转移至96孔深孔板，然后加入250 μl Binding Buffer 和10μl混合均匀的MagaBio Reagent，加好后，充分混匀大约30秒左右。
- 在96孔板中依次加入600μWash Buffer，100μl Elution Buffer和纯水，然