

Sampletype i-sep® DL-MB (70-13701-0010 / 70-13701-0100 / 70-13701-0250) Packaging Insert

Highly efficient and powerful differential lysis

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For research use only. Not for use in diagnostic procedures.

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70-13701-0010
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10 / 100 / 250



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1 PRODUCT DESCRIPTION

Sampletype i-sep® DL-MB was developed for differential DNA extraction to provide DNA lysates of the highest quality. The proprietary self-sealing filter material allows a stepwise release and separation of DNA. First, the epithelial cells are efficiently lysed, while leaving the sperm cells intact. Subsequent addition of dithiothreitol (DTT) to the lysis buffer **Sampletype i-sep® MB** induces efficient lysis of sperm cells. The resulting sperm cell lysates and epithelial cell lysates are compatible with any commercially available DNA purification kit. **Sampletype i-sep® DL-MB** can be easily integrated into existing automatized DNA purification workflows.

Sampletype i-sep® applications are intended exclusively for professional use in specialized laboratories. Personnel should be trained in the techniques of nucleic acid extraction. **For research use only. Not for use in diagnostic procedures.**

2 TEST PRINCIPLES

The success of a differential lysis hinges on the lysis buffer. The cervical epithelial cells need to be efficiently lysed, while leaving the sperm cells intact. Cervical smears are particularly challenging due to the large number of female epithelial cells compared to the small number of sperm cells. The combination of the buffer **Sampletype i-sep® MB** with the **Sampletype i-sep® DL Filter Column** provides the perfect solution to this problem. The buffer **Sampletype i-sep® MB** ensures extremely efficient lysis of epithelial cells while maintaining the integrity of the sperm cells. Subsequent addition of DTT to the lysis buffer in the next step of the protocol induces efficient lysis of sperm cells. The resulting sperm cell lysates and epithelial cell lysates are compatible with any commercially available DNA purification kit. **Sampletype i-sep® DL-MB** can be easily integrated into existing

automatized DNA extraction workflows. **Sampletype i-sep® DL-MB** is recommended in particular for forensic specimens.

3 CONTENT AND ORDERING INFORMATION

Please send your order as email to sales@biotype.de. The **Sampletype i-sep® DL-MB** kit is sufficient to perform 10, 100 or 250 reactions and includes the following components:

Component	Pieces per packaging			Tube color	Storage
	70-13706-0100	70-13706-0100	70-13706-0250		
Ordering number	70-13706-0100	70-13706-0100	70-13706-0250		
Sampletype i-sep® DL Filter Columns	10	100	250	Purple	15 °C to 25 °C
Sampletype i-sep® Collection Tubes	30	2 x 150	3 x 250	Natural	15 °C to 25 °C
Sampletype i-sep® MB	20 mL	2 x 80 mL	3 x 125 mL	-	15 °C to 25 °C

4 ADDITIONAL REQUIRED INSTRUMENTS AND REAGENTS

The **Sampletype i-sep® DL-MB** is used together with commercially available kits for the extraction of genomic DNA.

Additional required instruments and reagents:

- Pipets and tips, disposable gloves
- Incubator and centrifuge
- QIAGEN Proteinase K (Cat No. 19131, QIAGEN)
- 1 M DTT

5 STORAGE CONDITIONS

Sampletype i-sep® DL-MB is sent at ambient temperature. If the packaging is damaged during transport, contact Biotype GmbH (support@biotype.de) for further assistance.

The product must be stored at 15 °C to 25 °C.

The shelf life of the product is mentioned on the packaging label.

6 WARNING AND SAFETY INSTRUCTIONS

Sampletype i-sep® MB: Warning: Causes serious eye irritation. (H319)

Please pay attention to the safety data sheets of Biotype products, which we will gladly send you on request (support@biotype.de).

Read the instructions carefully before using the product.

Use only maintained and calibrated devices to perform the DNA extraction with **Sampletype i-sep® DL-MB**.

When using **Sampletype i-sep® DL-MB**, wear gloves, a lab coat and eye protection.

Store **Sampletype i-sep® DL-MB** physically separated from specimen and controls.

Additional controls may be required as per the policies or requirements of local, state, and / or federal regulations or accreditation organizations.

Do not use **Sampletype i-sep® DL-MB** if it is past its expiration date.

Discard sample and test waste according to local safety regulations or store for further analysis.

7 NOTES AND PRECAUTIONS

Because of the high number of epithelial cells typically present in cervical smears, it is recommended that only a small part of the swab is placed into the **Sampletype i-sep® DL Filter Column**.

A common method for DNA purification is the spin column technology, which uses a combination of guanidine and ethanol to bind DNA to silica particles on a spin column. Addition of a guanidine-containing solution to **Sampletype i-sep® MB** buffer can result in a turbid solution. If this happens, clear the solution using a brief centrifugation step and transfer the clear DNA-containing supernatant to a new tube. Next, add ethanol and continue the DNA purification protocol using spin columns.

The incubation time of step III. *Sperm cell lysis* can be extended overnight without loss of DNA yield.

8 QUALITY ASSURANCE

Biotype GmbH provides intensive quality assurance for the entire content of the test kit. The quality of the test kit is continuously checked to ensure unrestricted usability. Please contact us if you have any questions regarding quality assurance (info@biotype.de).

10 TECHNICAL ASSISTANCE

For technical assistance or information, please call Biotype at +49 351 8838 400 or contact us via support@biotype.de.

11 TRADEMARK AND DISCLAIMER

Biotype® is a registered trademark of Biotype GmbH, i-sep® is a registered trademark of VIBOD (or Meido) GmbH. Other registered names, trademarks, etc. used in this document, even if not

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specifically marked as such, are not to be considered unprotected by law.

The manufacturer gives no warranty for any application which is regulated by law in the countries of end-users. Thus, the end-users assume sole responsibility for regulatory compliance of its application(s).

9 WORKFLOW SAMLETYPE I-SEP® DL DNA EXTRACTION

Preparation of the lysis buffer 1 and 2 working solution

- **Lysis buffer 1:** combine 960 µL buffer **Samplettype i-sep® MB** with 40 µL Proteinase K (20 mg/mL)
- **Lysis buffer 2:** combine 460 µL buffer **Samplettype i-sep® MB** with 20 µL Proteinase K (20 mg/mL) and add 20 µL 1 M DTT

I. Epithelial cell lysis

- Place a part of swab (e. g. up to a quarter for gynecological swabs) or stain material with secretion into an **Samplettype i-sep® DL Filter Column (purple)** inside the **Samplettype i-sep® Collection Tube**
- Add 500 µL **lysis buffer 1** (preheated to 56 °C)
- Incubate for **30 min at 56 °C** in an incubator without shaking (do not use a heat block)
- **Centrifuge** 2 min at 7,000 rpm (room temperature)
- *Optional: Flow through in collection tube now contains lysed epithelial cells. Use this flow through for isolation of DNA with magnetic beads DNA purification and further analysis.*
- Transfer the **Samplettype i-sep® DL Filter Column (purple)** into a new collection tube

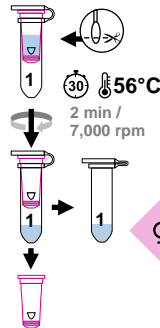
II. Epithelial cell lysis

- Add 500 µL **lysis buffer 1** (preheated to 56 °C)
- Incubate for **30 min at 56 °C** in an incubator without shaking (do not use a heat block)
- **Centrifuge** (2 min at 7,000 rpm, room temperature) and discard the collection tube
- Transfer the **Samplettype i-sep® DL Filter Column (purple)** into a new collection tube

III. Sperm cell lysis

- Add 500 µL **lysis buffer 2** (preheated to 56 °C)
- Incubate for **60 min at 56 °C or overnight** in an incubator without shaking (do not use a heat block)
- **Centrifuge** (2 min at 7,000 rpm, room temperature) and discard the **Samplettype i-sep® DL Filter Column**
- The flow through in the collection tube contains lysed sperm cells. Use this flow through for DNA purification with magnetic beads and further analysis.

I. EPITHELIAL CELL LYSIS

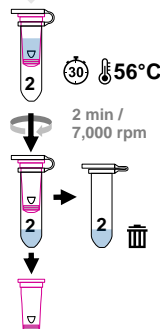


1. Place a part of swab (e. g. up to a quarter for gynecological swabs) or stain material with secretion into an **Samplettype i-sep® DL Filter Column (purple)**
2. Add 500 µL lysis buffer **Samplettype i-sep® MB** (preheated to a temperature of 56 °C) + Proteinase K (480 µL buffer **Samplettype i-sep® MB** + 20 µL of 20 mg/mL Proteinase K)
3. Incubate for **30 min at 56 °C** in an incubator without shaking (do not use a heat block)
4. Centrifuge (2 min at 7,000 rpm)

♀ **Flow through in collection tube #1** now contains lysed epithelial cells. Use this flow through for isolation of DNA with magnetic beads DNA purification

5. Transfer the **Samplettype i-sep® DL Filter Column (purple)** into a new collection tube (collection tube #2)

II. EPITHELIAL CELL LYSIS

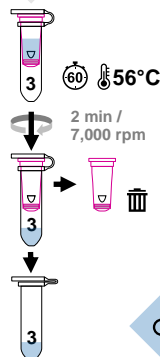


6. Add 500 µL buffer **Samplettype i-sep® MB** (preheated to a temperature of 56 °C) + Proteinase K (480 µL buffer **Samplettype i-sep® MB** + 20 µL of 20 mg/mL Proteinase K)
7. Incubate for **30 min at 56 °C** in an incubator without shaking
8. Centrifuge (2 min at 7,000 rpm)

9. Discard the collection tube 2 (including flowed fluid)

10. Transfer the **Samplettype i-sep® DL Filter Column (purple)** into a new collection tube (collection tube #3)

III. SPERM CELL LYSIS



11. Add 500 µL buffer **Samplettype i-sep® MB** (preheated to a temperature of 56 °C) + Proteinase K + DTT (460 µL buffer **Samplettype i-sep® MB** + 20 µL of 20 mg/mL Proteinase K + 20µL DTT (1 M))
12. Incubate for **60 min at 56 °C or overnight** (in an incubator without shaking)

13. Centrifuge (2 min at 7,000 rpm)

14. Discard the **Samplettype i-sep® DL Filter Column**

♂ **Flow through in collection tube #3** contains lysed sperm cells. Use this flow through for DNA purification with magnetic beads