

Investigator STAR Lyse&Prep Kit

The Investigator STAR Lyse&Prep Kit is shipped at ambient temperature. All buffers and reagents can be stored at room temperature (15–25°C). Do not freeze the reagent cartridges. When stored properly, the reagents are stable until the expiration date on the Q-Card. Lyophilized carrier RNA is stable until the expiration date on the Q-Card, when stored at room temperature. The ready-to-use Proteinase K solution is stable for up to 1 year after delivery, when stored at room temperature.

Further information

- *Investigator STAR Lyse&Prep Kit Handbook*: www.qiagen.com/handbooks
- Safety Data Sheets: www.qiagen.com/safety
- Technical assistance: toll-free 00800-22-44-6000 or www.qiagen.com/contact

Notes before starting

- This protocol is designed for isolation of total DNA (genomic and mitochondrial) from various types of casework and reference samples, using Hamilton® STAR Q SP/AS instruments. The protocol describes the preliminary lysis using Proteinase K.
- We recommend using the Investigator Lyse&Spin Basket Kit (cat. no. 19597), when solid sample materials have to be removed from the lysate. If using this kit, please follow the Pretreatment protocol under “Procedure using the Investigator Lyse&Spin Basket Kit”, in the *Investigator STAR Lyse&Prep Kit Handbook*. The Lyse&Spin Basket Kit collection tubes can be used as sample tubes.
- Heat a thermomixer to 56°C for the Proteinase K digest in step 3.

Procedure using 300 µl lysis volume

1. Place the sample in a sample tube or deep-well block.
2. Set up the Proteinase K digest according to information given in Table 1. Mix sample thoroughly by vortexing for 10 s.

Table 1. Protocol information for different sample types

| Sample type | Sample amount | Buffer ATL | Proteinase K | DTT (1 M) |
|-------------------------|-------------------------|----------------|--------------|-----------|
| Blood/saliva | Up to 50 µl | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Surface swabs | 1 swab | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Chewing gum | Up to 40 mg | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Cigarette butts | 1 cm ² | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Paper/similar materials | 0.5–2.5 cm ² | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Nail scrapings | Up to 40 mg | 260 µl/455 µl* | 20 µl/25 µl* | 20 µl |
| Nail clippings | 1 | 260 µl/455 µl* | 20 µl/25 µl* | 20 µl |
| Hair | 0.5–1 cm | 260 µl/455 µl* | 20 µl/25 µl* | 20 µl |
| Tissues | Up to 10 mg | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Blood or saliva stains | 0.5 cm ² | 280 µl/475 µl* | 20 µl/25 µl* | – |
| Semen stains | 0.5 cm ² | 260 µl/455 µl* | 20 µl/25 µl* | 20 µl |
| Buccal swabs | 1 swab | 280 µl/475 µl* | 20 µl/25 µl* | – |

* If using the Investigator Lyse&Spin Basket Kit.

3. Incubate at 56°C for 15 min to overnight, in a thermomixer shaking at 900 rpm.
Incubation for 15 min may be sufficient to recover adequate DNA for STR typing from samples containing abundant DNA. More than 1 h is recommended where a low amount of DNA is expected. When using in a deep-well block, ensure proper sealing with an adhesive tape.
4. After incubation, perform a brief centrifugation to collect liquid at the bottom of the tubes or the S-Block.
5. Transfer 300 µl lysate to a new tube or deep-well block.

Take care not to transfer any solid sample materials. See Table 2 for suitable labware.

Table 2. Labware for sample input and elution

| Manufacturer | Type | Catalog no. | Use |
|--------------|-----------------------|----------------------|----------------------|
| Treff | 2 ml | 96.09329.9.01 | Sample input/elution |
| Eppendorf® | 1.5 ml Safe-Lock | 0017 010.417-03/1109 | Sample input/elution |
| Eppendorf | 2 ml Safe-Lock | 0017 010.425-03/1109 | Sample input/elution |
| Sarstedt® | 1.5 ml Safe-Lock | 72.706 | Sample input/elution |
| Sarstedt | 2 ml Safe-Lock | 72.695.500 | Sample input/elution |
| Sarstedt | 1.5 ml | 72.690.001 | Sample input/elution |
| Sarstedt | 2 ml | 72.691 | Sample input/elution |
| VWR® | 96-Well-Plate, 2.2 ml | 732-0585 | Sample input |

6. Continue with DNA Purification on the STAR Q SP/AS instrument.

The software guides you through the worktable setup. Choose 300 µl as lysate volume.

