

High-Throughput DNA Extraction

KI Biobank



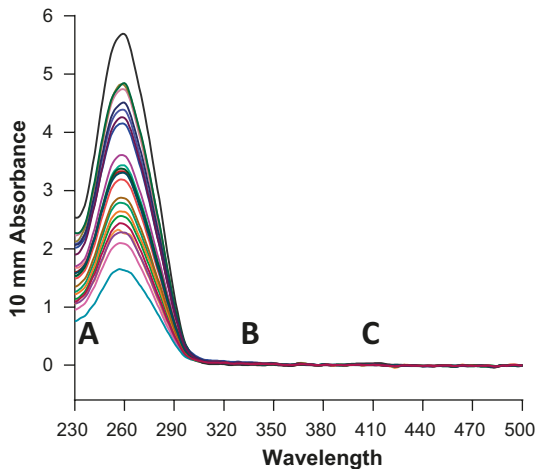
**Karolinska
Institutet**

DNA Extraction Services

KI Biobank offers

- More than 10 years of experience in DNA extraction.
- Automated DNA extraction from whole blood, cord blood, saliva, buccal swabs and cervical cells including full UV spectrum concentration measurement.
- High-throughput service with the capacity to extract 768 samples per day using the 400 μ L blood protocol, and 72 samples per day using the 4 mL blood protocol.
- Extracted DNA can be reformatted into plates or tubes of customer's choice.

We have optimized our system to provide very high quality DNA:



Full UV spectra measurements of DNA samples extracted from 4 mL whole blood.

A. No trace chemicals or high concentration of salts ($Abs^{230/280}$).

B. No magnetic bead contamination ($Abs^{300-400}$).

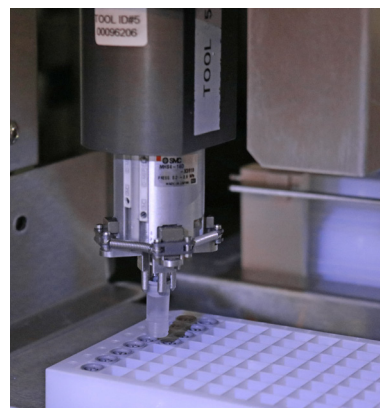
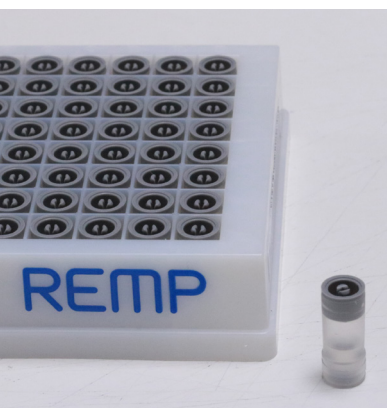
C. No PCR inhibitory haemoglobin or fragments of haemoglobin ($Abs^{400-420}$).

Sample Specifications

Sample type	Whole Blood	Whole Blood	Saliva	Buccal swabs
Collection tube	EDTA	EDTA	Oragene®	Oragene®
Sample volume	400 µL	4 mL	2 mL	-
Diluent volume	145 µL	200–500 µL	500 µL	200–300 µL
DNA yield	10–15 µg	70–100 µg	Up to 100 µg	Up to 14 µg

Automated DNA Extraction

The fully automated DNA extraction is carried out with Chemagen kits based on magnetic bead separation. The method runs on the established Hamilton ChemagicSTAR® platform. After isolation, DNA is dissolved in 10 mM Tris-HCl buffer, pH 8.0. The quantity and purity is determined by UV spectrum analysis at 230 nm, 260 nm, 280 nm and 420 nm. Extracted DNA is stored in 2D barcoded REMP tubes within 96 well plates in our automated storage and retrieval system.





KI Biobank

KI Biobank at Karolinska Institutet in Solna is a core facility for pre-analytical handling, storage and distribution of human biological samples.

We provide services for collection, handling, and formatting of biobank samples and support customers both within and outside of Karolinska Institutet. By using state of the art technology and a Laboratory Information Management System (LIMS), we ensure accurate sample identification from the initial blood sample to the final analytical process.

We also offer advice on how to start a sample collection, as well as support on ethical and legal requirements. We help to establish the necessary agreements under the Biobank Act, such as extradition treaty, multi-center agreements and Material Transfer Agreement (MTA).

For more detailed information visit our website at ki.se/forskning/ki-biobank



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