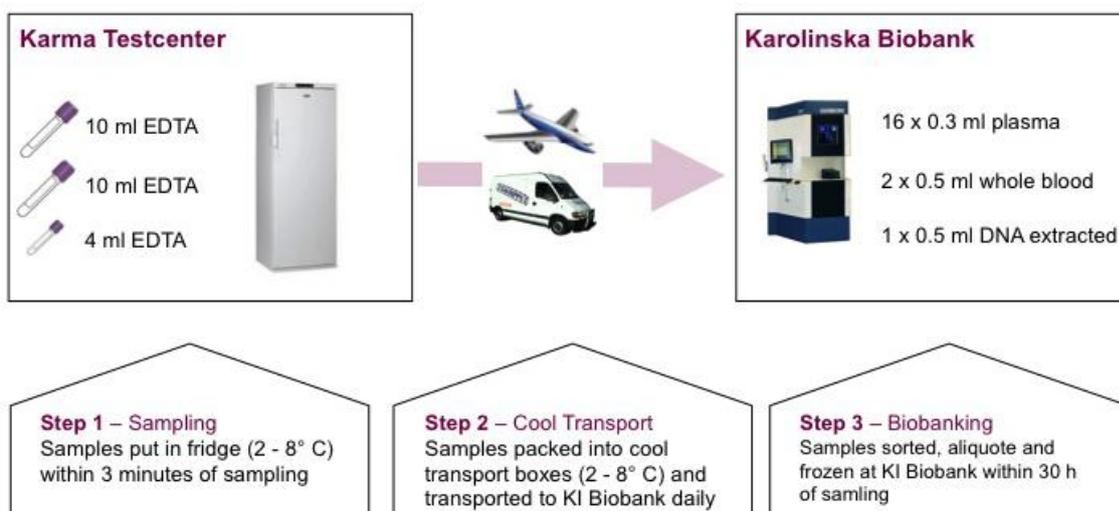# Karma Biobank variables

All participants donate two 10 ml EDTA blood samples and one 4 ml EDTA blood sample each time they visit a Karma unit for their In Person Test, typically every 18 to 24 months. The blood is handled in accordance with a strict 30 hour protocol, which makes advanced blood analysis (OMICS) possible. The blood samples are processed in KI biobank and aliquoted into 16 plasma aliquots (each 250 microliters), one aliquot of extracted DNA, and two aliquots of whole blood.



## Karma biosampling process

**Karma Testcenter**

- 10 ml EDTA
- 10 ml EDTA
- 4 ml EDTA

**Karolinska Biobank**

- 16 x 0.3 ml plasma
- 2 x 0.5 ml whole blood
- 1 x 0.5 ml DNA extracted

**Step 1** – Sampling
Samples put in fridge (2 - 8° C) within 3 minutes of sampling

**Step 2** – Cool Transport
Samples packed into cool transport boxes (2 - 8° C) and transported to KI Biobank daily

**Step 3** – Biobanking
Samples sorted, aliquote and frozen at KI Biobank within 30 h of samling

The Karma biobank holds the following variables.

# Report of receipt

**mothersample_receivedate**
Date of receiving mother sample(s).

**mothersample_splitdelivery**
Mother sample came in split delivery, i.e. all samples did not arrive at the same time. The split samples are added up correctly in the mother sample variables.

**mothersample_blood_nbr**
Number of blood mother samples received at the biobank.

**mothersample_plasma_nbr**
Number of plasma mother samples received at the biobank.

**referralid**
Referral ID.

# Aliquots

**aliquot_event_receive**
Number of aliquot receive events.

**aliquot_event_deliver**

Number of aliquot deliver events.

**aliquot_saldo**

Aliquot saldo in biobank (receive events minus deliver events minus discard events).

**aliquot_nbr**

Number of aliquots processed per study participant.

**aliquot_event_highestnbr**

Highest number of aliquot events for at least one aliquot (e.g. STORE, UNSTORE events) per study participant.

**needle_to_receive_aliq1_hrs**

Hours from needle to biobank (1st aliquot), i.e. from blood drawing at the Karma unit to the receive event at the biobank for aliquot 1.

**needle_to_freezer_aliq16_hrs**

Hours from needle to biobank freezer (16th aliquot), i.e. from blood drawing at the Karma unit to the store event at the biobank for aliquot 16.

**process_aliq1_to_aliq16_min**

Aliquot processing time in minutes (receive of 1st aliquot to store of 16th aliquot).

**mothersample_receivedate**

Date of receiving mother sample(s).

**mothersample_blood_nbr**

Number of mother samples of blood.

**mothersample_plasma_nbr**

Number of plasma mother samples.

# DNA concentration

**aliquot_dna_mothersampleid**

Mother sample used in DNA extraction.

**aliquot_dna_barcode**

Aliquot barcode used in DNA extraction.

**aliquot_dna_volume_myl**

DNA volume in aliquot (micro liter).

**aliquot_dna_conc_myg_ml**

DNA concentration in aliquot (micro gram per milliliter).

**aliquot_dna_ratio**

Ratio of DNA/aliquot volume (A260/A280 standard).

**aliquot_dna_measured_date**

Date of performing the DNA concentration measurement.

**aliquot_dna_measured_again**

DNA ratio measurement was performed again. The DNA-concentration variables hold result from last measurement.

# System variables

**study_biobank**

The study collecting biobank samples.

**round_biobank**

Round of biobank processing samples for study participant, i.e. the order number of times the study participant donates bio-material. Used for stratifying participant rounds (study steps).

**year_biobank**

Year of biobank processing samples. Used for stratifying time series data.

**month_biobank**

Month of biobank processing samples. Used for stratifying time series data.

**source_kibb_report_of_receipt**

Available biobank report of receipt data.

**source_kibb_aliquot**

Available biobank aliquot data.

**source_kibb_dnaconcentration**

Available biobank DNA concentration data.

**lastupdate_date**

Date of last update of biobank information.