

# The Netherlands Twin Register (NTR) Biobank



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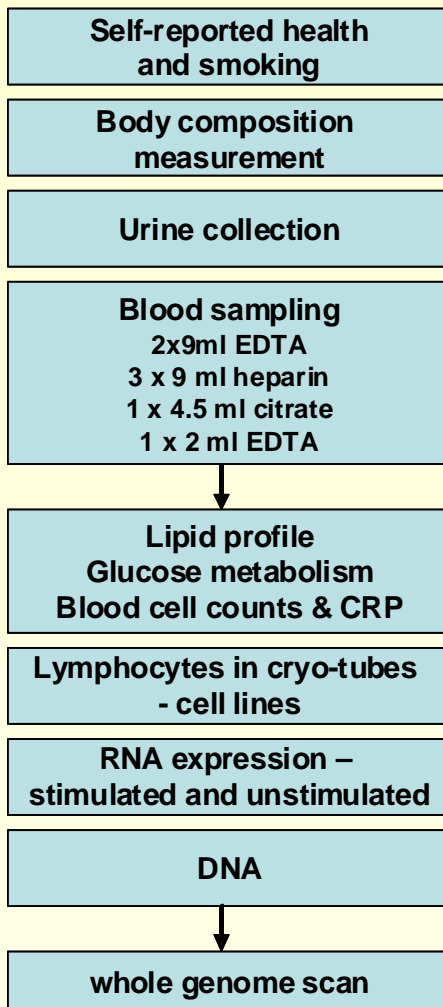
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## Objective

In January 2004 the NTR started a large scale biological sample collection to create a resource for genetic studies on health, lifestyle and personality/psychopathology. Participants were twins and their family members.



Data obtained at visit



## Procedure

Adult NTR participants received a mailed invitation, followed by a phone call to answer their questions and make an appointment. Of those reached by phone, 67.8% agreed to participate. Participants were visited at home between 7–10 am to obtain blood and urine samples after overnight fasting. Women with a natural menstrual cycle were visited between the 2<sup>nd</sup> and 4<sup>th</sup> day of their cycle. Women taking OR were visited in the pill-free week.

## Participants

The NTR Biobank consists of 9,514 persons from 3,482 families. Slightly more women (62.7%) than men took part. Average age for men was 45.1 and for women 44.0 years.

## Phenotypic information

Most participants (>82%) also participated in one or more surveys of the longitudinal survey studies on health, lifestyle and personality. During the home visit, additional information was obtained on health and lifestyle, as well as biological parameters (see table below). Lipid profile and glucose metabolism are more favourable in women than in men. Correction for correlation with age ( $r_{age}$ ) does not change these results much.

	Men N	mean (SD)	$r_{age}$	Women N	mean (SD)	$r_{age}$
Total cholesterol	3265	5.05 (1.05)	.291	5532	5.12 (1.08)	.415
HDL	3264	1.25 (.33)	.013	5532	1.52 (.39)	.047
LDL	3254	3.10 (.94)	.250	5524	3.04 (.96)	.366
Triglycerides	3265	1.52 (.91)	.156	5533	1.24 (.74)	.227
Glucose	3246	5.68 (1.17)	.243	5468	5.39 (.86)	.325
Insulin	3139	10.04 (9.47)	.131	5310	9.28 (7.62)	.116
Hba1c	3217	5.37 (.67)	.229	5431	5.36 (.65)	.220
CRP	3180	3.01 (7.67)	.098	5373	3.77 (7.04)	.004

NB. Data are reported for samples obtained after overnight fasting.

## Genotypic information

Whole genome scans (Affymetrix 600k, Illumina 500k) have been obtained for 2000 unrelated individuals from the biobank. More genome scans will be performed in the near future. Cell lines and RNA isolation will be done at Rutgers University Cell and DNA Repository (RUCDR).

**Conclusion:** The NTR biobank provides a valuable resource for the study of genetic determinants of individual differences in health, lifestyle and personality.

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