

MultiPark Biobank Sample Collection (MPBC)

Infrastructure manager: Maria Swanberg

1. Short description of the infrastructure.

MULTIPARK'S BIOBANK SAMPLE COLLECTION, MPBC

Steering group: Maria Swanberg (coordinator), Oskar Hansson, Andreas Puschmann, Håkan Widner and Per Odin.

MultiPark's biobank sample collection (MPBC) is a resource that serves three major research areas: Biomarkers, Epidemiology and Genetics. Patients with confirmed idiopathic Parkinson diagnosis living in the region of Skåne were invited to participate. There are approximately 2-3000 Parkinson patients in the region of Skåne, whereof almost 1000 patients are connected to the Lund/Malmö Neurology clinics. The cohort includes 1000 patients and 1012 population-based controls. Within the cohort, we have 954 patient-control pairs matched by gender, age and area of residence. The blood samples are taken and handled by the Clinical Chemistry Unit at SUS, and are stored within Biobank Syd. Available samples are: serum, plasma (collected in EDTA and heparin tubes), RNA (blood collected in PaxGene tubes) as well as prepared DNA. Samples are stored in a 96-well format of 225 ul aliquots.

The biobank sample collection is combined with a detailed questionnaire filled in by both patients and controls. In addition, data can be retrieved from the Swedish Parkinson registry, the Diagnosis registry and Medication registry. Coupling genetic, registry- and questionnaire data to diagnosis and measures from the biobank samples gives the opportunity to unravel determinants associated to Parkinson's disease.

2. Is this infrastructure receiving support also from other Strategic Research Areas (SRAs) or organizations at Lund University (e.g. Medical faculty, LBIC). If yes, please specify the type of support and its amount.

No

3. Number and names of MultiPark senior researchers using the infrastructure in the period 2018-2020¹.

n=5

Oskar Hansson

Per Odin

Andreas Puschmann

Maria Swanberg

Håkan Widner

4. Number and names of senior researchers outside of Multipark and/or non-academic partners using the infrastructure 2018-2020.

N=11 external senior researchers + 3 international consortia/study groups

¹ If the infrastructure was first established in 2020, please include this information.

National collaborators:

Andrea Carmine Belin, Karolinska Institutet, Solna, Sweden
Karin Wirdefeldt, Karolinska University Hospital, Karolinska Institutet
Per Svenningsson, Karolinska University Hospital, Stockholm, Sweden
Hans Nissbrandt, University of Gothenburg, Gothenburg, Sweden
Lars Forsgren, Umeå University, Umeå, Sweden

International collaborators:

Andrew Singleton, NIH, Bethesda, USA
Ziv gan-Or, McGill University, Montreal, Canada
Mathias Toft, Oslo University Hospital, Oslo, Norway
Vincenzo Bonifati, University Medical Center Rotterdam, Rotterdam, The Netherlands.
Christine Klein, University of Lübeck, Lübeck, Germany
Owen Ross, Mayo Clinic, Jacksonville, USA

International consortia/study groups

International Parkinson's Disease Genomics Consortium (IPDGC)
Genetic Epidemiology of Parkinson's Disease (GEOPD)
MJFF Global Genetic Parkinson's Disease Study Group

1. Does the infrastructure have a steering document accessible to the users? If yes, when was it last updated?²

Yes, updated 2016

6. Is the infrastructure charging user fees? If yes, state the amount and what is covered by the user fees.

Yes, fees apply when samples are withdrawn and includes selecting and retrieving specific samples.

Cost per DNA sample: 10 SEK (minimum fee 10.000 SEK)

Cost per RNA sample: 25 SEK (minimum fee 10.000 SEK)

Cost per serum/plasma sample: 5 SEK (minimum fee 5.000 SEK)

7. List publications generated with the help of this infrastructure during the past 3 years (2018-2020). Do not include manuscripts in preparation and please give the full reference (i.e., complete author list, complete title, journal name with year, volume, pages)³.

Andreas Puschmann, Itzia Jimenez-Ferrer, Elin Lundblad-Andersson, Emma Mårtensson, Oskar Hansson, Per Odin, Håkan Widner, Kajsa Brolin, Ropafadzo Mzezewa, Jonas Kristensen, Maria Soller, Emil Ygland, Owen A. Ross, Mathias Toft, Guido J. Breedveld, Vincenzo Bonifati, Jan Linder, Olof Sydow, Anna Zettergren, Karin Wirdefeldt, Per Svenningsson, Hans Nissbrandt, Andrea Carmine Belin, Lars Forsgren, and Maria Swanberg

Low prevalence of known pathogenic mutations in dominant PD genes: A Swedish multicenter study.

² Note that the Multipark leadership may ask to see this document with a very short notice.

³ If the infrastructure was first established in 2020, please include this information here too.

Multipark infrastructure report form 2021

Parkinsonism & Related Disorders, 2019 Sep;66:158-165.

Vollstedt EJ, Kasten M, Klein C; MJFF Global Genetic Parkinson's Disease Study Group.
Using global team science to identify genetic Parkinson's disease worldwide
Annals of Neurology, 2019 Aug;86(2):153-157