# Biobank scanner: instructions for academic researchers

## The purpose and target groups

These instructions are intended for researchers who are utilizing the Biobank scanner service.

## Generation of Datamatrix- codes by using Excel-spreadsheet

The slides to be scanned need to have a Datamatrix-code that the Leica scanner is able to read. The HE-stained slides of OYS pathology department have this code since 2015 and immunostained slides since 2016. For slides without the codes, they can be generated by using stickers. With the help of these Datamatrix codes, the slides are automatically named and are easier to manage.

The Biobank has prepared an Excel-spreadsheet for the generation of Datamatrix-codes and printing of stickers for the slides. **The spreadsheet can be found in biobank webpages**  <https://www.ppshp.fi/Tutkimus-ja-opetus/Biopankki/Tutkijoille/Pages/default.aspx> **.**

The Biobank will fill pink columns (biobank number and Datamatrix -code) and the researchers will fill the blue columns. This information includes

* organization (OY, OYS etc.)
* group identifiers (initials of the research group leader)
* slide ID (the identifier of the slide)
* magnification (5X, 20X, 40X)
* staining (e.g. HE, CD34)
* date
* The excel sheet can also be used for specific funding details, e.g. project number

**PLEASE NOTE: due to data protection reasons, the hospital sample numbers (e.g. OB-xxx) cannot be used as slide IDs, if the slides will be stored in the university NAS-storage.** Instead identify the slides with e.g. other type of numbering.



**Please note that spaces, commas, periods, colons, semicolons, backslashes or other special characters are not allowed; only letters and numbers can be used. Do not delete 3 prefilled rows.**

**The filled sheet will be sent by email to either Biobank technicians** [**harri.kaikkonen@ppshp.fi**](mailto:harri.kaikkonen@ppshp.fi) **or** [**biopankkiborealis@ppshp.fi**](mailto:biopankkiborealis@ppshp.fi) **or University of Oulu scanner technician** [**tarja.piispanen@oulu.fi**](mailto:tarja.piispanen@oulu.fi). The stickers can be picked up at the Biobank locker, which is situated at the department of pathology (Aapistie 5B), 3rd floor, behind the glass door next to the spiral stairs following Borealis-signs.

## How to put the stickers on the slides?

qrqrQR

Orient the sticker in a way that the Datamatrix-code is located on the upper right corner. Check carefully that the information is correct and that the stickers and slides are paired correctly.

## Where to drop-off and pick-up the slides?

The scanner is located in premises that are under access control system. The slides can be dropped off and when the scanning is completed picked up from the Biobank rack, which is situated at the department of pathology 3rd floor, behind the glass door with Biobankki Borealis -sign next to the spiral stairs. The door is unlocked during office hours. It is highly recommended that the slides are packed in boxes and not brought on cardboards trays. The scanner staff will notify by email when the scanning is completed.

## Slide requirements

The slides have to fulfill certain quality criteria in order to avoid damage to the machinery and scanning failures.

Please note the following requirements;

. the tissue is centralized

. optimally 1-2 sections /slide

. maximum number of 3-4 stripes of sections: 1 / slide

. If there are several sections, please place them close to each other

. no pleas or scratches on the sections

. clear data matrix- code (printed to the slide by Primera or a slide sticker manufactured by Kroko)

. only one sticker per slide

. mounting media needs to be dry

. no excessive amount of mounting media

. the mounting glass slide placed straightly

. no dust or any markings on the slide

. no damaged or repaired slides

. if the sample is sectioned to several slides, please check that the markings are correct

## NAS- storage for university researchers

The image files are very large, and thus the researchers need to figure out the options of their long-term storage before the use of the scanner. For short-term storage Biobank has arranged a NAS-storage, which researchers can access within the university network and with VPN remotely and from which they can transfer the files to other storage locations. However, NAS-storage has limited capacity and therefore researchers have to remove the files within 1 month after the completion of the scanning at the latest. After 1 month the Biobank staff will delete the files from the NAS. Notify the Biobank staff if you need access permission to the NAS.

The scanned files can be found as follows:

→ click Computer and type to the address bar [\\LTK-biobank\scanner](file://LTK-biobank/scanner) (when using remote VPN the address is [\\ltk-biobank.oulu.fi\scanner](file://ltk-biobank.oulu.fi/scanner) )

→ Images folder

→ folders named for the researchers/research groups

→ the images are found in dated folders

It is possible to e.g. adjust magnification, pan and zoom, compare different stains, annotate areas of interest, perform image analysis by a freely downloadable Aperio Image Scope-software that can be found here:

<http://www.leicabiosystems.com/pathology-imaging/aperio-digital-pathology/integrate/imagescope/>

**Invoicing**

The Biobank will invoice the scanner service expenses according to the excel-sheet.