### Biobank scanner: instructions for academic researchers

### The purpose and target group

These instructions are aimed at researchers who are utilizing the Biobank scanner service. The researcher receives guidance on how to correctly fill the Excel -file for slides to be scanned, to place the sticky labels on the slides and bringing and collecting the slides from the biobank. The quality requirements of the scanned slides are also described as well as the invoicing details.

### 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. 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 for printing labels for the slides. The biobank personnel will print the labels. **The ‘Biobank excel sheet for scanner’ -spreadsheet can be found in biobank webpages:** [For researchers - Biopankki Borealis (oys.fi)](https://oys.fi/biopankki/for-researchers/)

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

* organization (OY, OYS etc.)
* group identifiers (e.g. 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 invoicing 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 (please see p. 2).** Instead, identify the slides with e.g. consecutive numbers.



**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 the three first prefilled rows.**

**Please note that individual slides under same sample number have to be filled into the table on separate rows and accompanied with all the required information.**

**Send the filled sheet by email to the Biobank** [**biopankki@pohde.fi**](mailto:biopankki@pohde.fi). The sticky labels can be picked up at the Biobank locker, which is situated at the department of pathology (Aapistie 5B), 3rd floor. By the spiral staircase, you will find the locker behind the glass door with ‘Biobankki Borealis’ -sign.

### How to place stickers on the slides?

qrqrQR

Orient the sticky label 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. The researcher is responsible for removing the sticky labels from the slides after the scanning has been completed.

### 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 locker, which is situated at the department of pathology 3rd floor. By the spiral staircase you can find the locker behind the glass door with ‘Biobankki Borealis’ -sign. The door is unlocked during office hours. It is highly recommended that the slides are packed in boxes (and not brought on cardboard trays). Also the name of the researcher and the date of drop-off should be marked clearly on the boxes. If the researcher prefers the scanned images to be saved on an external hard drive, he/she must bring a new hard drive to the biobank locker when dropping off the slides. The researcher will be notified by email when the scanning is completed.

### Slide requirements

The slides have to fulfill certain quality criteria in order to save valuable storage space, avoid damage to the machinery and scanning failures.

Please note the following requirements for the slides:

* 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 datamatrix -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 plan the options of their long-term storage beforehand. 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. The 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 that the Biobank staff will delete the files from the NAS. Please notify the Biobank staff if you need access permission to the NAS. Oulu university account (oulu.fi) is required for establishing the access permission.

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 information on the **‘Biobank excel sheet for scanner’** excel-sheet. Please note that the researcher is responsible for removing the sticky labels from the pathology department’s diagnostic slides after the scanning has been completed. If this task is left to the biobank staff, the work is invoiced according to the biobank service pricing (hourly fee).