DZHK-SOP-P-03
Release of biospecimen for secondary use projects (use and access)

(DZHK Clinical Study Units)

Version: V1.2 Valid as of: January 10, 2023

Replaces version: - dated: -

This SOP is a translation from the original German SOP and valid without signatures.

Contents

1 SOP Part I: General Information

1.1 Objectives

This standard operating procedure describes the release and shipping process of biospecimens for the DZHK Clinical Study Units in the context of DZHK secondary use projects (https://dzhk.de/en/dzhk-heart-bank/secondary-use-projects/). Starting with the announcement by the DZHK Transfer Office of an upcoming biospecimen release, which is carried out by the DZHK Clinical Staff. The process ends when the recipient confirms the reception of the biospecimens to the DZHK Transfer Office.

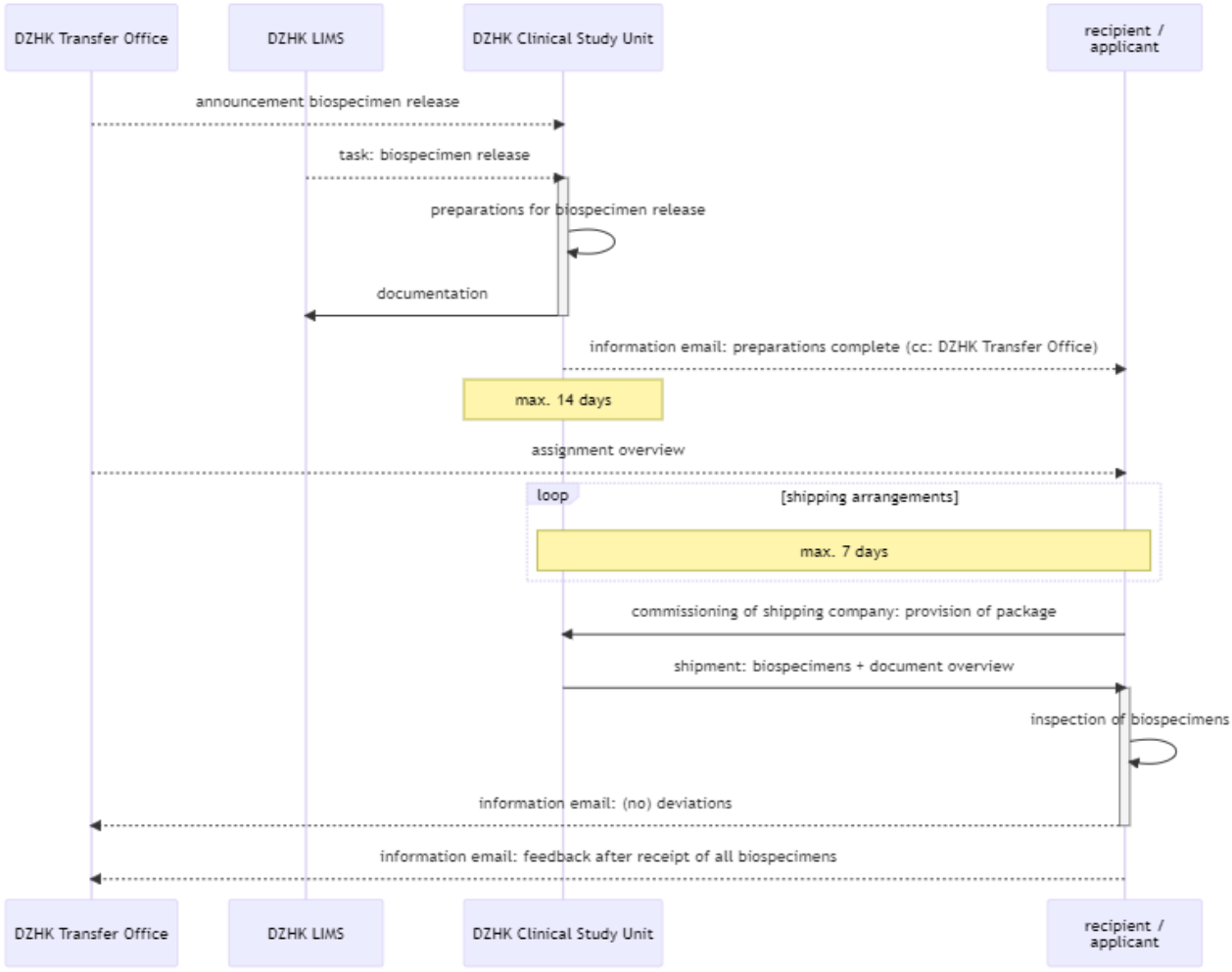
1.2 Purpose

The DZHK Clinical Staff and the recipient of the biospecimens (defined in the Material Transfer Agreement (MTA)) are responsible for the correct implementation of the SOP.

1.3 Terms and Definitions

Biospecimens collected within DZHK projects are property of the DZHK and are therefore subject to the corresponding DZHK Use and Access Policy in the currently valid version (see chapter 4). Biospecimens include e.g. blood, urine, stool and tissue as well as materials that result after processing (e.g. plasma, serum, stem cells and derivatives such as DNA and RNA).

1.4 Implementation of biospecimen release (Flow Chart)



2 SOP Part II: DZHK Clinical Study Units

2.1 Announcement of biospecimen release

An upcoming biospecimen release is **exclusively announced from** the functional address of **the DZHK Transfer Office** (use.access@dzhk.de). The DZHK Clinical Staff of the involved DZHK Clinical Study Unit will be informed about the biospecimens to be released per secondary use project. The MTA that is signed by the applicant and the DZHK is attached to this e-mail. This is a prerequisite for the release of the biospecimens! In case of deviations, please contact the DZHK Transfer Office (use.access@dzhk.de) before the biospecimen release.

2.2 Preparations for biospecimen release

Responsibilities: The **DZHK Clinical Staff** is responsible for the successful completion of the biospecimen release. This includes among others internal communication to forward relevant information to the persons responsible for biospecimen releases at the respective DZHK Clinical Study Unit.

After the announcement has been made by the DZHK Transfer Office (see section 2.1), a system message of the DZHK LIMS (dzhk-lims@med.uni-greifswald.de) informs about a new task for the biospecimen release. The single steps of the process need to be documented according to the working instruction DZHK-LIMS LF-B-08 (see chapter 4). The biospecimens have to be prepared for the following shipping step.

Attention: Always ensure that the tubes or racks to be released do not contain any **primary pseudonyms** (e.g. lims_123456789 or pheno_123456789). The only exception at the current time are primary tubes of the TORCH Registry that have already been labelled. When in doubt, please contact biobanking@dzhk.de.

2.3 Contact to recipient of biospecimens

After the preparation of biospecimen release, the DZHK Clinical Staff informs recipient of the biospecimens and DZHK Transfer Office (use.access@dzhk.de) that the shipping can take place. The DZHK Transfer Office provides the contact information via e-mail and MTA.

This part of the process (sections 2.1 - 2.3) should be finished within a maximum of 14 days. Please communicate foreseeable delays (e.g. holidays, inventory of the biobank) promptly to the DZHK Transfer Office (use.access@dzhk.de).

2.4 Shipment of biospecimens

The person responsible for the shipment of biospecimens ensures in a final check right before the shipment that the picked tubes / racks match the list of the DZHK LIMS task.

The shipment of biospecimens is carried out according to the shipping arrangements between the recipient of the biospecimens and the DZHK Clinical Staff (see section 3.1). The DZHK Clinical Staff hands over the biospecimens to the shipping company as follows:

- The tubes shall be stored in rack(s) with an appropriate volume of dry ice to avoid thawing. The racks are labelled with the name of the sending center and the application number (e.g. UA.0012.18).
- The printed out document overview includes sample IDs and tube positions on the rack according to chapter 3.4.1 in the working instruction DZHK-LIMS LF-B-08 (see chapter 4).

In addition, applicable regulations for shipping potential infectious biological material and dangerous goods must be complied with. For questions, please contact the local dangerous goods officer. Compliance with local conditions (e.g. SOPs and other QM documents) must also be ensured.

On the subject of shipping costs, please see section 3.1.1.

3 SOP Part III: Recipient of biospecimens

3.1 Shipping organization

Responsibilities: The DZHK Clinical Staff informs the **recipient of biospecimens** that the biospecimens are ready to be shipped (see section 2.3). Subsequently, the recipient coordinates all shipping details with the DZHK Clinical Staff. The recipient organizes the shipment of the biospecimens and commissions a suitable shipping company for this purpose.

As a properly executed shipment of biospecimens is essential for the quality of the biospecimens themselves and the upcoming analyses, choose a professional shipping company (see section 3.2). If needed, get support, e.g. through your local biobank or local SOPs on shipment of biospecimens.

It is important to coordinate the following information (among others): **respective delivery addresses, time lines and appropriate package sizes**. It shall also be ensured that

- the package with dry ice can be received directly by the DZHK Clinical Study Unit as well as
- the package with the biospecimens can be received directly by the recipient

in order to avoid thawing of ice and biospecimens. For example, a shipment on Friday is usually not recommended.

This part of the process should take no longer than 7 days per DZHK Clinical Study Unit.

3.1.1. Shipping Costs

The shipping costs are borne by the person who concluded the MTA with the DZHK (see chapter 4, DZHK Use and Access Policy §24 Reimbursement of costs). Additional expense reimbursements shall not be requested from the recipient (resp. the person who concluded the MTA with the DZHK) by the DZHK Clinical Study Units (§10 MTA). This applies to both DZHK-funded and non-DZHK-funded secondary use projects.

If the release of biospecimens is not carried out by the DZHK Clinical Staff but by the local biobank, an internal settlement may have to be made.

3.2 Requirements for shipping companies

The shipping company shall be able:

a) to ship cryogenic biospecimens (≤ -80°C) at temperatures about -79°C, for example using dry ice (solid carbon dioxide), and to maintain this temperature over a period of at least 72h,

b) to ensure compliance and monitoring of the cold chain,

c) to use temperature loggers (the use of temperature loggers is mandatory if residual materials are being generated in the course of the project analysis (which are then stored again) or if residuals materials (< 300 µl) are being transported),

d) to comply with the applicable regulations for shipping potentially infectious biospecimens and hazardous materials,

e) to track the shipment.

To ensure sample quality, choosing one of the following shipping companies that specialize in shipment of biospecimens is recommended:

- Corporate Logistik
- General Overnight (GO!)
- Ontime Courier
- TNT (FedEx Express)

3.3 Reception of biospecimens

The recipient of biospecimens ensures in a receiving inspection that the biospecimens contained in the package match the information provided on the **document overview** ("Belegübersicht"). Because a **rack scanner (flatbed scanner) is required** for this purpose, the possibility to (co-)use a rack scanner must be ensured.

The document overview is used to **identify the physical biospecimen** (sample ID). Contact the respective center and the DZHK Transfer Office (use.access@dzhk.de) immediately to clarify the situation, if there are any discrepancies in the matching process (e.g. different sample IDs, more biospecimens than indicated).

Important for the matching are the respective **sample IDs** and the **positions on the rack** (see blue marking in Figure 1), for the assignment to the individual patient, the sample ID is relevant.

A	B	C	D	E	F
CentraXX Proben ID	**Probenart**	**Restmenge**	**Probenbehälter**	**Lagerort**	**Proben ID**
186923	Serum	300,00 µl	AliquotFluidX	DHZ München ⇒ DHZ München Altdatenlager ⇒ SA00541318 (A7)	1034758782
186917	Serum	300,00 µl	AliquotFluidX	DHZ München ⇒ DHZ München Altdatenlager ⇒ SA00541318 (A1)	1034759146
186919	Serum	300,00 µl	AliquotFluidX	DHZ München ⇒ DHZ München Altdatenlager ⇒ SA00541318 (A3)	1034803580
472029	Whole Blood EDTA	7,5 ml	Originalcontainer	DHZ München ⇒ Gefrierschrank 1 ⇒ Ebene 01 Einschub 04 Boxen ⇒ Box 5 (E7)	1053520307

Figure 1: Example: Document overview from the biospecimens package of the DZHK Clinical Study Unit

3.3.1. Linkage

The DZHK Transfer Office sends the applicant two types of files:

- the clinical data set and
- per DZHK Clinical Study Unit the corresponding assignment overviews ("Zuordnungsübersicht").

The clinical data of an individual patient is assigned to a **pseudonymized patient number (export ID)** (see Figure 2).

A	B	C	D	E	F	G	H	I
export	**basis_ahf**	**basis_bypass**	**basis_choles**	**basis_choles_einheit**	**basis_copd**	**basis_datum**	**basis_datum_blut**	**basis_depression**
export_12	nein	nein	140	mg/dl	nein	20150620	20150620	nein
export_2	nein	nein	251	mg/dl	nein	20170721	20170721	nein
export_6	nein	nein	200	mg/dl	nein	20161209	20161209	ja
export_30	nein	nein	149	mg/dl	ja	20151219	20151219	nein

Figure 2: Example: Clinical data set with export IDs (export)

Each **assignment overview** (see Figure 3) contains the **sample / tube ID** documented in the document overview of the corresponding DZHK Clinical Study Unit (see Figure 1) and the corresponding **export ID** used in the clinical data (see Figure 2).

The physical biospecimens of a patient can be assigned to the associated clinical data with the help of the assignment overviews. Contact the DZHK Transfer Office (use.access@dzhk.de) immediately to clarify the situation, if there are any discrepancies in the matching process (e.g. different sample / tube IDs, more biospecimens than indicated).

A	B	E	F	G	L	M	N
export	**TubeID**	**ProbenVolumen**	**ProbenVolumenEinheit**	**ProbenTyp**	**AbgabeKennung**	**TubeOrgUnit**	**TubeOrgUnitName**
export_12	1034758782	300	MICL	SER	UA.0001.22_TEST	DHZM	München DHZ
export_2	1034759146	300	MICL	SER	UA.0001.22_TEST	DHZM	München DHZ
export_6	1034803580	300	MICL	SER	UA.0001.22_TEST	DHZM	München DHZ
export_30	1053520307	7,5	ML	EDTAWB	UA.0001.22_TEST	DHZM	München DHZ

Figure 3: Example: Assignment overview of a DZHK Clinical Study Unit with the mapping between sample ID (TubeID) and export ID (export)

3.4 Feedback to DZHK Transfer Office

As soon as all biospecimens were delivered correctly and the documentation is without deviations (see section 3.3), the recipient of biospecimens informs the DZHK Transfer Office (use.access@dzhk.de) about it. To improve these processes in the future, the DZHK Transfer Office is informed about the following:

- the chosen shipping company,
- the condition of biospecimens on receipt,
- any difficulties encountered (e.g. related to communication, process or the like),
- any suggestions for further improvement.

3.5 Handling Residual Materials

Residual materials are to be stored again in a DZHK biobank structure in order to be available again for subsequent usage. Accordingly, the materials will be stored at the recipient's site (if working at a DZHK Clinical Study Unit) or at a nearby DZHK Clinical Study Unit. Agreements must be made with the DZHK Transfer Office (use.access@dzhk.de) and the DZHK Biobanking Office (biobanking@dzhk.de). Documentation in the DZHK LIMS is carried out according to guideline LF-B-12 (see chapter 4).

4 References

Type / SOP ID	Title
Working instruction / LF-B-08	Leitfaden_DZHK-LIMS_Probenherausgaben_Nachnutzungsprojekte (only German)
Working instruction / LF-B-12	Leitfaden_DZHK-LIMS_Wiedereinlagerung_von_Bioproben-Restmengen (only German)
Association documents	DZHK Use and Access Policy

5 Annexes

5.1 List of Abbreviations

Abbreviation	Full form
DZHK	Deutsches Zentrum für Herz-Kreislauf-Forschung e.V.
DZHK LIMS	DZHK laboratory information management system (CentraXX)
MTA	material transfer agreement
SOP	standard operating procedure
QM	quality management

5.2 List of Contributors

Name	Function	Contribution
Julia Hoffmann	DZHK Main Office, Coordination	Expert Review
Alexandra Klatt	DZHK Main Office, Use and Access Office	Drafted the SOP
Kristin Lehnert	DZHK Clinical Staff	Expert Review
Tabea Scharfe	DZHK Transfer Office	Drafted the SOP
Anne Schoneberg	DZHK Transfer Office	Drafted the SOP
Christian Schäfer	DZHK LIMS operator	Expert Review
Ivonne Wallrabenstein	DZHK Main Office, DZHK LIMS	Drafted the SOP

5.3 Modifications to Previous Version

None.