# Newsletter

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## Dear colleagues,

Newsletter 18 informed you on the progress of the implementation of the virtual crossmatch. This newsletter provides an update, as well as a description of the related changes in the EPT. The plans for the usage of Imlifidase in Eurotransplant are discussed, the challenges of CDC screening, and we introduce our new colleague. We hope to see you all at the Eurotransplant Annual Meeting!

## Towards the virtual crossmatch

At the Eurotransplant office, a team of IT specialists is working hard to build all the software necessary to run the virtual crossmatch. The first version of the web-based portal for upload of HML files has been developed and is currently further shaped to meet demands. Furthermore, there has been substantial progress in building the algorithms for further downstream processing of the HML files. Additionally, the first steps for updating the HLA antibody and unacceptable antigen registration have been made, and the planning is that from November 2022 onwards unacceptable antigens can be listed for all 11 loci on the allele level in addition to the antigen level. Eurotransplant is working with a few laboratories, as well as with the DSO, to make sure that all requirements are met. During the Tissue Typing session of the Eurotransplant Annual meeting Ben Furth (manager software development Eurotransplant) will present the progress and plans (see full program in this newsletter).
Besides the virtual crossmatch itself, also the EPT exercises will change to reflect the required parameters for the virtual crossmatch, together with some other changes. The following changes in the EPT exercises will be introduced, starting from 2023:

*HLA typing*
- DQA, DPB, DPA are added
- Match determinants following the new HLA table

*Crossmatching*
- Final results are no longer necessary

*Screening Detection*
- Final results are no longer necessary

*Screening Identification*
- SPA SA (complement binding): specificities as defined in the Luminex SAB kits can be entered.
- DQA, DPB and DPA are added

## New HLA table

Currently, full phenotypes are listed for the loci HLA-A, -B, -C, -DRB1/3/4/5 and -DQB1, as well as Bw4/Bw6 at the level of ET match determinants. Since the virtual crossmatch will be performed on 11 loci, a way to display the full phenotype for all loci had to be established. Since for HLA-DQA, -DPB and -DPA no serological equivalents are known, we have made use of a recently published paper by Osoegawa et al. in the HLA journal which describes, amongst others, serological equivalents for these three loci based on amino acid residues determining epitopes. The new HLA tables can be found on the ETRL website.

## Announcement Extramural meeting 2023

Friday 17th of March 2023, Mechelen, 10:00-15:00. The program will include EPT results, the patient based EPT cases of 2020, the future of the CDC screening in relation to its current challenges (availability and IVDR), as well as the virtual crossmatch implementation.

## Imlifidase in Eurotransplant

There is a lot of interest in the possible use of Imlifidase for desensitization of highly sensitized patients within Eurotransplant. The ETKAC has established a subcommittee to discuss the potential use of Imlifidase for those patients that otherwise are extremely unlikely to receive a transplant. Within Eurotransplant, there are two patient groups that would fulfil this description;

those that are active in the AM program for an extended period without being transplanted, and those highly sensitized patients not eligible for the AM program. For logistical reasons, the ETKAC decided that a first pilot of using Imlifidase in Eurotransplant should be done within the setting of the AM program.
Eligibility for the planned Imlifidase program is based on a minimum of 3 years AM waiting time without being transplanted, and a transplant center fulfilling specific requirements regarding experience with crossing DSA and treatment options for acute humoral rejection. Currently, discussions are ongoing on the number of patients that can be enrolled per member state, and which patients are to be selected first. During the kidney session of the Eurotransplant Annual Meeting, there will be three presentations on Imlifidase.

## Final program Tissue Typing session at Eurotransplant Annual Meeting

The Eurotransplant Annual Meeting meeting will take place as a live meeting on Thursday September 22 and Friday September 23 in Sassenheim, the Netherlands. The program of the Tissue Typing session is as follows:

**Impact of sensitization on waiting time prior to kidney transplantation in Germany**
*Daniel Zecher, Universitätsklinikum Regensburg, Germany*
**ETKAS & AM KidneyWOP: Waitlist outcome predictions tailored to immunized kidney-only transplant candidates**
*Hans de Ferrante, Eindhoven University of Technology, the Netherlands*
**Practical implementation of virtual crossmatch in Eurotransplant**
*Ben Furth, Eurotransplant, the Netherlands*

## CDC screening

In the light of IVDR and poor availability of commercial CDC trays, it is important to assess the future of CDC screening. Within Eurotransplant, the CDC is regarded as an important technique, which, in combination with Luminex single antigen bead screening, allows to determine relevant antibodies detrimental to transplantation outcome. Furthermore, CDC reactivity is one of the prerequisites for inclusion into the AM program.
Due to IVDR regulations, commercial CDC trays are becoming scarce. Many laboratories use in house developed CDC screening panels, besides commercial trays. It is important to know that ISO accreditation is possible for in house developed tests, after validation for ISO. For IVDR there is the possibility to use in house developed tests, provided that no commercial alternative is available.
The ETRL can provide help in the following ways:

- It can provide a service to determine the coverage of your in house CDC panel
- It can provide protocols for long term storage of in house cell panels

Beginning of 2023 the ETRL will send out an electronic survey to make an inventory on the CDC techniques used, the panel compositions, the frequency of CDC screening performed, amongst others. This information will be used for the discussion during the extramural meeting in March 2023.

## The ETRL is very happy to introduce its new co-worker Cynthia Kramer

My name is Cynthia Kramer and I am happy to have joined the ETRL team. In 2020, I obtained my PhD on “Towards HLA epitope matching in clinical transplantation” under the supervision of Prof. Frans Claas, Dr. Sebastiaan Heidt, and Dr. Dave Roelen. Since then I have worked as a post-doc in the same group. The focus of my research is on the definition of immunogenic HLA epitopes and the generation and characterization of recombinant human HLA monoclonal antibodies. I was also actively involved in the epitope projects of the 18th International HLA & Immunogenetics Workshop. For ETRL, I will continue with my research focusing on allocation, HLA eplets, donor-specific antibodies, and AM outcome. Furthermore, I am involved in the introduction of the virtual crossmatch. In addition, I will assist Marissa van der Linden-van Oevelen with running the AM program, will serve as a back-up for EPT related matters, and I will work closely with Eurotransplant on histocompatibility related issues.