

Downloads of HLAMatchmaker Programs

HLAMatchmaker is a computer algorithm to determine compatibility for structurally defined HLA epitopes. It is especially suitable for identifying acceptable HLA mismatches for highly allosensitized candidates awaiting an organ transplant and thrombocytopenic patients in need of HLA matched platelet transfusions. All programs can be downloaded free of charge to histocompatibility professionals and can be used only for research purposes. They should not be used for making clinical decisions regarding donor selection and patient care. There might be errors in this program. All programs are Microsoft Excel XP format and the user should have some familiarity with Excel. They are still at a developmental stage and there may be errors that will interfere with the analysis and the proper interpretation of the results.

Matching Programs

HLA-ABC Eplet Matching

Determine HLA class I compatibility between donor and recipient at the structural level with eplets. From the list of more common ABC alleles and their mismatched eplets one can select permissible mismatches with the fewest numbers of mismatched eplets.

HLA-DRDQDP Eplet Matching

Determine HLA class II compatibility between donor and recipient at the structural level with eplets. This program considers the polymorphisms of DRB1, DRB3/4/5, DQB, DQA, DPB, and DPA. It incorporates also an algorithm that predicts the DQA alleles from the DRB-DQB types of recipient and donor. From the list of more common class II alleles and their mismatched eplets one can select permissible mismatches with the fewest numbers of mismatched eplets.

500 Pair ABC Eplet

This matching version can determine structurally based class I compatibility for up to 500 donor-recipient pairs all at once. It generates information not only about the numbers of mismatched eplets for each locus, but also shows which eplets are mismatched and how often these mismatches occur for the cohort of recipients.

500 Pair DRDQ Eplet

This program determines eplet compatibility for DRB, DQB and DQA for up to 500 donor-recipient pairs. It generates information about the numbers of mismatched eplets for each locus as well as which eplets are mismatched and how often these mismatches occur in the cohort of recipients.

Serum Analysis Programs

Serum Screens with HLA-ABC Phenotyped Panels

This program is designed for analyzing serum antibody reactivity patterns with Class I phenotyped panels and to determine antibody specificities against eplet-defined epitopes. It can be used for lymphocytotoxicity screens and solid phase screens with HLA phenotypes. This

analysis shows antibody reactivity towards eplets on the immunizer and a new potential donor, if available. From the list of more common ABC alleles and their mismatched eplets one can select acceptable mismatches with no or few mismatched eplets.

Single ABC Allele Screening

This program is designed for analyzing serum antibody reactivity patterns with single ABC allele panels (Luminex, etc.) and to determine antibody specificities against eplet-defined epitopes. It shows the antibody reactivity towards class I eplets on the immunizer and can identify other alleles not present in the single allele panel that are acceptable mismatches

Single DRDQ Allele Screening

This version analyzes serum antibody reactivity patterns with single DRB allele and DQA-DQB heterodimer panels (Luminex, etc.) and to determine antibody specificities against eplet-defined epitopes. It incorporates also an algorithm that predicts the DQA alleles from the DRB-DQB types of recipient and donor. This analysis shows the antibody reactivity towards DR and DQ eplets on the immunizer and can identify other alleles not present in the single allele panel but can be considered as acceptable mismatches

Single DP Allele Screening

This program is designed for analyzing serum antibody reactivity patterns and to determine antibody specificities against DPB and DPA eplet-defined epitopes. It shows the antibody reactivity towards DR and DQ eplets on the immunizer and can identify other DP alleles not present in the single allele panel but which can be considered as acceptable mismatches

Single MICA Allele Screening (coming soon)

This program analyzes serum reactivity patterns with MICA alleles and determines antibody specificities against MICA eplet-defined epitopes

Other Programs

The 4-Digit Converter

This program assigns 4-digit alleles to serologically defined HLA antigens. These assignments are based on frequencies of the most common 4-digit alleles in four major population groups. There are algorithms for ABC and DR, DQ antigens.

HLA Patch Generators

These are easy and quick program designed to define patches of polymorphic residues on HLA alleles for determining structurally based epitopes. This tool has been used to determine eplet repertoires. There are six versions: ABC, DRB, DQB, DQA, DPB and DPA.

A click on the "Downloads" button on this website provides access to the above programs. A registered login is required

