

No 3: New feature added: DPB1 TCE3 model



BMDW BiteSize

Learning

New feature: DPB1 TCE3 model

BMDW is currently working on the second phase of development and we will add some new features in the upcoming months.

We now already released a very nice new feature to our BMDW Search & Match Service that will support our users with the selection of the appropriate donors. This feature is called: **DPB1 T Cell Epitope algorithm**.

This algorithm classifies HLA-DPB1 alleles into three distinct T-cell-epitope Groups (TCE-Groups) on the basis of T cell crossreactivity patterns. The discrimination of permissive and non-permissive HLA-DPB1 mismatches is made based on whether the donor and patient alleles are from the same (permissive) or different (non-permissive) TCE groups. The permissive mismatches are tolerated while the non-permissive mismatches might increase risks after unrelated-donor haematopoietic stem cell transplantation (HSCT).

The algorithm used in our BMDW Search & Match Service is based on version 1.0 of the tool that was originally provided through the IPD-IMGT/HLA website in 2012. For more background information and publications, please visit the [IPD-IMGT/HLA](#) website.

Please be aware that this algorithm will only show results at your search results page when you have entered the HLA-DPB1 typing of your patient.


If you entered the HLA-DPB1 typing of your patient, the algorithm will predict for all donors with HLA-DPB1 typing if their T-Cell epitopes will probably have an effect on transplantation outcome or not.

The prediction outcome is visualized with the following icons just underneath the HLA-DPB1 typing of the donor. When you hover over the icon you can see in wording the explanation of the prediction:

- P Permissive
- G Non-permissive in GvH direction
- H Non-permissive in HvG direction

You can also filter on the type of mismatch that is allowed for your patient. The

filter icon is shown at the header of the search results in the DPB1 column:

DPB1 

When you click on the filter icon, you will see the screen below and you can check the mismatches that are allowed for your patient. This will result in a list including only donors with those checked characteristics.

Filter TCE3 match grade ×

- Permissive
- Non-permissive in GvH direction
- Non-permissive in HvG direction
- Unknown

[Remove filter](#) [Filter by TCE3 match grade](#)

We believe this algorithm is a valuable addition to our BMDW Search & Match Service and we hope that our users will appreciate this feature as well.

If you have any questions about the TCE3 model or other topics from the BMDW Search & Match Service, you can always contact us via support@bmdw.org

Click [here](#) for previous editions of *BMDW BiteSize Learning*



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