HLA Typing and Matching Guidelines

Patient HLA Typing and Unrelated Donor Matching Guidelines

Patient HLA Typing

HLA typing of the patient must be undertaken in a laboratory accredited by the European Federation for Immunogenetics (EFI) or by an agency with similar standards and accreditation process.

HLA typing of the patient must be undertaken on two occasions using samples drawn at different times, so that the typing and identity is confirmed.

HLA typing of the patient must be by DNA methods, and include at a minimum HLA-A, -B -C and DRB1. This may be supplemented by serology to ascertain protein expression. HLA-DRB3, DRB4, DRB5 and DQB1 typing are considered desirable, and DPB1 optional. The resolution of typing should ideally be high resolution for HLA-A, B and DRB1, resolving polymorphisms within exons 2 and 3 for HLA-A and B and polymorphisms within exon 2 for HLA-DRB1, at a minimum. All serologically defined antigens should be discriminated.

It should be noted that the matching algorithm in operation at the Anthony Nolan Trust works optimally when patient HLA class I (-A & -B) and class II (-DRB1) alleles are defined to a level of resolution with 4 digits. Low resolution (2 digit) patient typing does not allow the most informative donor listing to be produced. Additionally, low resolution typing can increase the time and cost of the search as this will be conducted using incomplete information.

Patient/Donor Matching

The Anthony Nolan Trust recommends that, when possible, patients and unrelated donors should be matched on high resolution (as described above) HLA-A, -B, -C and -DRB1 types. When such a match is not available, partially matched donors can be released, but all levels of mismatch would be subject to review. The transplant centre may be required to justify their choice of mismatched donor and provide additional information relating to the transplant protocol. Where it is necessary to select a mismatch donor for transplant, the patient and donor typing would be expected to be at high resolution so that the degree of mismatch throughout may be ascertained.

It is expected that the search will be extended internationally, when appropriate, so that the best matching donor can be identified. Reports from `Bone Marrow Donors Worldwide (BMDW) are issued for each UK patient search request and access to BMDW on-line match programmes is available for UK transplant centres or their representatives upon application to The Anthony Nolan Trust Registry Manager.

It should be noted that registries in different countries have their own policies on donor release that may differ from that of The Anthony Nolan Trust.

Final Donor Selection

For final selection of an unrelated donor, HLA typing of both donor and recipient must be repeated using a new typing sample from each such that each individual's typing and identity is confirmed. The final typing of each must be performed in the same laboratory (i.e. the transplant centre laboratory), using the same techniques, and tested within a reasonable timeframe of one another.

Advice on selecting donors for patients can be provided by The Anthony Nolan Trust.

However, the final decision on donor suitability is always the responsibility of the transplant centre.