Guidelines for the Blood Transfusion Services

16.3: Terminology and nomenclature

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All HLA assignments, irrespective of the method, must comply with the latest report of the WHO Nomenclature Committee for Factors of the HLA System.

HLA typing is now performed by DNA molecular analysis.

HLA typing by DNA-based techniques employs either sequencing or DNA-based probes/ primers to type for the presence or absence of sequence motifs. Kits using this technology are able to define the HLA alleles present in an individual to a variable level of resolution dependent on a number of factors. These include the number of probes or primers employed, the number of alleles defined for a given locus and the HLA alleles present in the individual. Although it is possible to achieve a high resolution or allele level typing using molecular methods, it is not a clinical requirement in transfusion practice.

Each serologically defined HLA antigenic specificity may be encoded by a number of different HLA alleles. Conversely many HLA alleles have no determined serologically defined antigen. Thus it is not always possible to assign a serological equivalent to each HLA allele.[4]

HLA typing results must conform to the recommendations of the WHO Nomenclature committee. Examples of suitable reporting formats as referenced in EFI Standards v.8.0 include the following:

- Single alleles: HLA-B*07. Single antigens: HLA-B7
- DNA assignment: HLA-A*02,*30; B*07,*44; C*07,*16; DRB1*01,*04; DQB1*05, *03:01
- Serological assignment: HLA-A2,30; B7,44; Cw7; DR1,4; DQ5,7

If an HLA typing is performed using DNA methods, it is acceptable to report an HLA serological assignment if required for the purposes of e.g. HLA matched platelet allocation. The translation of alleles to serological equivalence must be performed according to a documented protocol.

Caution should be exercised if an HLA type assigned using DNA-based molecular techniques is converted into a serological equivalent and such conversion must always be avoided with alleles for which the phenotype has not been unequivocally defined.