

American Red Cross Blood Services

New England Region

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SBT HLA-DPA1 High Resolution Typing Procedure

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Sequence based typing (SBT) is one of the typing methods used for high resolution HLA-DPA1 typing. Exon 2 of the HLA-DPA1 gene is amplified using primers listed on the International Histocompatibility Working Group (IHWG) Web site and subsequently sequenced using BigDye™ Terminator chemistry from Applied Biosystems (Foster City, CA) with the M13 sequencing primer. TECAN Genesis workstation (Maennedorf, Switzerland) is used for PCR set up to reduce labor and avoid human error. Sequencing is carried out using ABI 3100 Genetic Analyzers (Applied Biosystems).

Sequence specific oligonucleotide probe (SSOP) hybridization is also used for DPA1 high resolution typing. Probe sequences presented by the Class II International Histocompatibility Working Group (IHWG) and manufactured by Orchid Diagnostics (Stamford, CT) work well in our laboratory.

With a limited number of alleles, few ambiguities are encountered. Those which are, however, are resolved using group-specific amplifications followed by SSOP.