

BUCHAREST NATIONAL HLA LABORATORY ACTIVITY FOR NATIONAL HEMATOPOIETIC STEM CELLS DONOR REGISTRY

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The frequencies of HLA alleles and their linkage disequilibrium patterns differ significantly among human populations. The alleles and haplotype frequencies in some major registries have been published.

The Romanian National Hematopoietic Stem Cells Donors Registry started in the end of 2009. The majority of donors were recruited in one area, approx. 250 Km² around Bucharest, in blood transfusion centers, in external collections, in collaboration with patients associations, students groups and social organizations.

During the last 2 years, in our centre we performed 1 000 HLA A, B, DRB1 typings by DNA-SSO method low resolution, using BAG reagents and SPOT platform. In order to optimize the use of the registry and reduce the delay for donor selection, since November 2011 we have integrated in our laboratory routine PCR-SSO Luminex for HLA-DRB1 High Definition (HD). We used this technology (One Lambda SSO DRB1HD kits) to type 423 samples.

The aim of this study is to estimate the general characteristics as sex, age, CMV status and the distribution of HLA alleles in donors recruited and tested in our centre for Romanian Registry. The allele and haplotype frequencies in donor's pool are estimated using statistics tools (the maximum likely-hood method and Arlequin program) and are compared with data obtained by testing 500 romanian families.

This study will be a useful tool which contributes to estimate the chance for national and international patients to find a HLA-matched donor in our registry. This data could also be useful for studies concerning HLA-disease association or populations genetics.