

## Human leukocyte antigen-E mismatch is associated with better hematopoietic stem cell transplantation outcome in acute leukemia patients

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## Supplemental material on patients and methods

### HLA-typings

High resolution HLA-genotyping for the loci HLA-A, -B, -C, -DRB1 and -DQB1 was carried out by sequence based typing (SBT) using CE-certified in-house Kits (DRK-BSD Baden- Württemberg – Hessen gGmbH, Ulm, Germany). HLA-DPB1 genotyping was performed retrospectively for all study subjects by NGS using stored DNA material. HLA-E high resolution genotyping was performed by using the same SBT protocol of the CE-certified in-house HLA-class I high resolution typing Kit. HLA-E specific primers were designed for complete Exon 2 and 3 sequencing analysis, allowing precise assignment of all known allelic variants. One set of forward and reverse primers was used and their oligonucleotide sequences were as follows: fwd 5'-CGATCTCAGCCCCTCCTC; rev 5'-GGCACAGTCCTAGCCCAAG (Metabion international AG, Planegg/Steinkirchen, Germany).

### Definitions

According to the EBMT recommendations, Mab was defined as treatment with total body irradiation equal or above 10 Gy and/or cyclophosphamide equal or greater than 120 mg/kg, and/or busulfan equal or greater than 16 mg/kg. Less intense regimen treatments were accordingly classified as RIC<sup>25,26</sup>.

Time to death of any cause was defined as overall survival (OS) and was censored at the time of last follow-up. As disease free survival (DFS) was accordingly defined the time to relapse of primary disease or death from any cause and was also censored at the time of last follow-up. The cumulative probability of relapse at any given point was defined as relapse incidence (RI), while non-relapse mortality (NRM) was defined as mortality of any cause without prior relapse or progression of the primary disease. As cGvHD incidence was defined the cumulative probability of chronic GvHD (cGvHD) occurrence at any time point after the first 100 post-transplant days.

### Statistical Analysis

The statistical models implemented in our study covered covariates in accordance with previously published recommendations of the EBMT study group<sup>26,31</sup>, hence patient age, disease stage, graft manipulation, conditioning regimen, graft source, donor source (national vs. international), year of transplantation, time between diagnosis and transplantation, and donor-recipient gender combination were assessed. In statistical analysis a stepwise backward exclusion procedure was used for model selection, where all variables were included in the first model and then successively reduced (at each step the least significant) until the loss of information became significant<sup>24,26</sup>.

## Tranplantation Centers/Appendix

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