# HLA-KMR® ASSAYS
# DETECTION OF HLA LOSS BY qPCR

GENDX

personalizing diagnostics

- Fast and sensitive qPCR assay
- 10 unique markers
- Most frequent allele groups of HLA-A, -C and -DPB1
- Applicable with KMRtrack protocol
- Fully integrated with KMRengine

## HLA-KMR® in Chimerism Monitoring

Leukemia relapse after allogeneic hematopoietic stem cell transplantation (HSCT) is in most cases of recipient origin and leads to a status of mixed chimerism. High sensitivity chimerism monitoring can therefore predict this frequent HSCT complication and enable timely clinical intervention.

When an imminent relapse is identified by the HLA laboratory or physician, additional information on whether or not the relapse is characterized by "HLA loss" (see box to the right) HLA loss can provide valuable information for the course of treatment.

GenDx now supports 10 HLA-KMR markers to detect this HLA loss relapse. The 10 genomic markers are all located within HLA genes and integrated in the KMRtype/KMRtrack and KMRengine® workflow

Using these 10 markers targeting some of the most frequent alleles of HLA-A, -C, and -DPB1, the loci that are most often mismatched in haploidentical and unrelated HSCT, an informative marker for HLA loss (i.e. specifically targeting an HLA allele present in the recipient but not in the donor) can be found for 70.3% of haploidentical and 66.4% matched unrelated recipient-donor pairs (these percentages are from European studies and thereby mainly represent the Caucasian population).

### HLA loss

In a partially HLA-mismatched allogeneic hematopoietic stem cell transplantation (HSCT), leukemia control is partly mediated by alloreactive donor T cells recognizing mismatched patient-specific HLA molecules on residual tumor cells. Relapse however remains a frequent and severe complication, and in a considerable number of cases is due to specific immune escape by leukemia via genomic loss of the mismatched HLA haplotype. These HLA loss relapses become invisible to control by alloreactive donor T cells.

## Full integration with KMRengine workflow

The HLA-KMR assays make use of the same innovative qPCR methodology as KMRtype and KMRtrack and are fully integrated with KMRengine. With the same ease as selecting KMRtrack assays, the HLA-KMR assays can be selected and added to experiments using KMRengine.

## Acknowledgments

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## Available HLA-KMR products

| | | |
|---|---|---|
| Core kit | Includes HLA-A, -C, -DPB1 | 8344152 |
| HLA-A | 5 markers* | 8344342-501 / 8344342-506 |
| HLA-C | 2 markers* | 8344342-511, 8344342-512 |
| HLA-DPB1 | 3 markers* | 8344342-520 / 8344342-522 |

* For a complete overview of covered alleles please go to www.GenDx.com

GENDX

info@gendx.com
www.GenDx.com

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dlw@dlongwood.com
www.dlongwood.com