

Mentype® Chimera® C E IVD

Tailored to monitor chimerism status

Mentype® **Chimera**® is a multiplex-PCR application specifically developed for chimerism analysis after blood stem cell or bone marrow transplantation. The assay allows monitoring the post-transplant engraftment and enables the early detection of threatening relapse. This application addresses a set of highly discriminative short tandem repeats (STRs) that are located on 12 different chromosomes in total. These loci mediate reduced stutter ratio, show a balanced allelic distribution and very high rate of heterozygosity. These hallmarks significantly increase the chance to identify informative loci for donor-recipient discrimination thereby providing reliability and robustness of chimerism analysis.

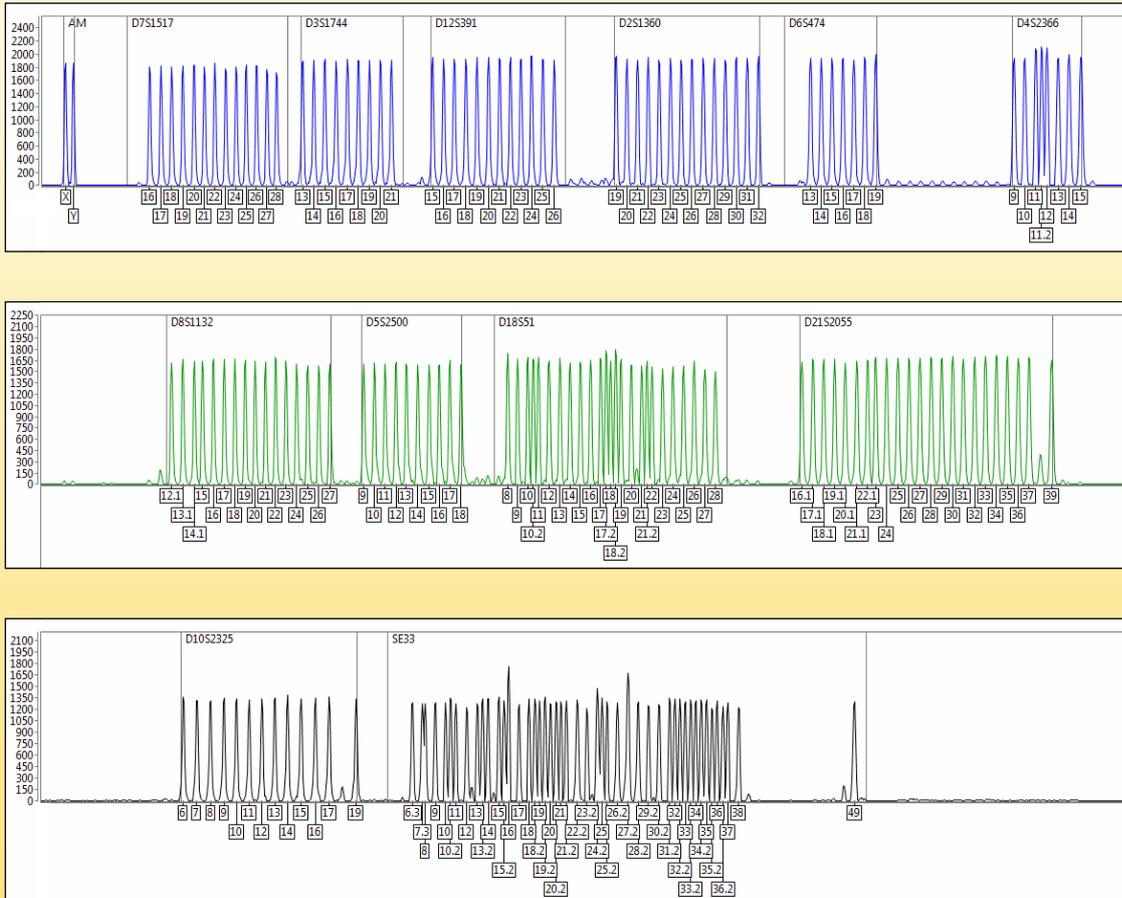
Deployed markers were first investigated in a multi-centred study with regard to establishing quality standards for chimerism analysis. Next, the assay was validated by chimerism analysis of over 200 HLA-matched related donor-recipient-pairs before its specificity was further confirmed in a comparative clinical evaluation study. Ever since, Mentype® **Chimera**® is successfully used in routine diagnostics.

The following twelve highly polymorphic autosomal markers are amplified simultaneously:

D2S1360, D3S1744, D4S2366, D5S2500, D6S474, D7S1517, D8S1132, D10S2325, D12S391, D18S51, D21S2055, SE33 (ACTBP2), as well as the gender-specific **Amelogenin**.

One primer for each locus is fluorescence-labelled with **6-FAM™, BTG, or BTY**.

Reliable and highly sensitive DNA profiling for chimerism monitoring



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Electropherogram of Mentype® **Chimera**® Allelic Ladder. Analysis was performed on an ABI PRISM® 3130 Genetic Analyzer with the DNA Size Standard 550 (BTO). Data evaluation was performed with the Chimeris™ **Monitor** Software (Biotype Diagnostic).

Mentype[®] Chimera[®] CE IVD

Tailored to monitor chimerism status

Mentype[®] Chimera[®] developed for the specific requirements in chimerism analysis

- CE/IVD certification allows an easy implementation into the laboratory routine
- Significantly increased chance to identify informative loci for clear donor-recipient profiling
- Highly polymorphic STR-loci with a very high degree of heterozygosity and a balanced allelic distribution
- Deliberate loci-assortment as well as an tight primer-design reduce stutter peak occurrence and stutter-ratio
- Robust performance
- Easy to use

Mentype[®] Chimera[®] PCR-based STR multiplex analysis is a single tube approach permitting analysis of 12 STR-loci in one reaction. It represents a rapid method to reliably evaluate the engraftment status in diverse transplantation settings. Moreover, Mentype[®] Chimera[®] requires only minute amounts of DNA and allows analysis of samples with low cell number.

STRs with high power of discrimination and low allelic overlap*

Marker	Heterozygosity	Percent donor/recipient without allelic overlap
D2S1360	0.799	22.1 %
D3S1744	0.812	20.0 %
D4S2366	0.783	20.6 %
D5S2500	0.786	18.1 %
D6S474	0.735	not validated
D7S1517	0.865	24.9 %
D8S1132	0.869	23.1 %
D10S2325	0.885	24.1 %
D12S391	0.902	25.4 %
D18S51	0.879	27.7 %
D21S2055	0.770	not validated
SE33 (ACTBP2)	0.951	45.1 %

* C. Thiede et al, Leukemia (2004) 18, 248–254

Technical specifications

Detection limit: ≤ 200 pg genomic DNA
Optimal amount of template DNA per reaction: 0.2-1.0 ng
Volume per PCR reaction: 25 µL
Fluorescence labels: 6-FAM™, BTG, BTY, BTO

Use with ABI PRISM[®] Genetic Analyzers

ABI PRISM[®] 310
ABI PRISM[®] 3130/3130xl/3500/3500xl
ABI PRISM[®] 3100-Avant/3100
ABI PRISM[®] 3700/3730

Bio **type**[®]

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Ordering information

Mentype [®] Chimera [®]	Order number
25 reactions	45-13210-0025
100 reactions	45-13210-0100
400 reactions	45-13210-0400