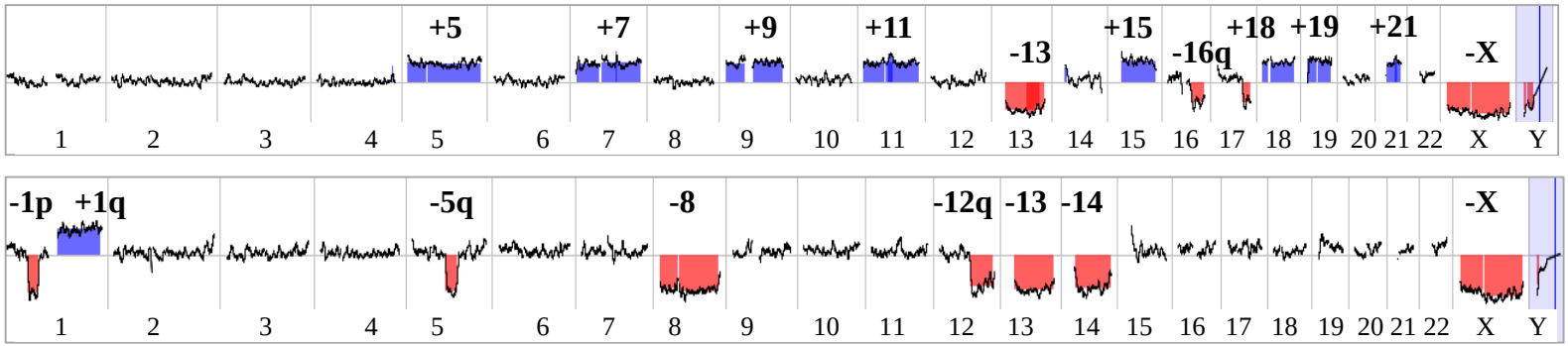
MICROARRAY ON CD138^{+} PLASMA CELLS + *IGH* FISH

The microarray analysis performed on DNA from CD138 positive plasma cells provides additional knowledge regarding chromosomal alterations helping in disease classification, risk stratification, and treatment selection. In contrast to the FISH panel, microarray is high-throughput, highly accurate and superb new tool for evaluating of cancer genomes. FISH testing for 14q32.3 (*IGH*) rearrangement will be automatically performed with microarray. This microarray test replaces the former FISH panel.

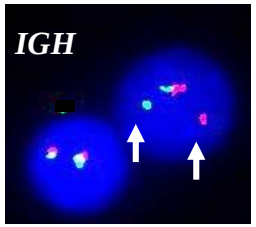
When ordering, please indicate a suspected or previously diagnosed plasma cell myeloma. This information is crucial for an optimal separation of CD138+ cells, which can be successfully accomplished within 72 hours upon a bone marrow sample collection.

Individual FISH testing for hyperdiploidy, *IGH* translocations, *IGH/CCND* gene fusions, 13q deletion/monosomy,1p loss(*CDKN2C*), 1q gain (*CKS1B*), TP53 gene deletion can be ordered from a list of probes for a follow up study.

Microarray profile in patients with plasma cell myeloma



FISH break-apart



Sample type: CD138+ purified plasma cells isolated from a bone marrow sample, 10-20 cells are sufficient for microarray analysis

Indications: Suspected or definite diagnosis of Plasma Cell Myeloma, MGUS, Plasma Cell Leukemia

Regions tested: Unbalanced alterations of all chromosomes

Advantages: Requires very few plasma cells in a sample
Detection of additional genomic alterations of prognostic and diagnostic significance

Limitations: Balanced rearrangements involving *IGH* will require concurrent FISH studies

FISH studies: Complementary *IGH/CCND1, IGH/FGFR3, IGH/MAF, IGH/CCND3, IGH/MAFB* fusion analysis in cases positive for *IGH* rearrangement, *MYC* rearrangements