



**FIGURE 19-7** Repeated FISH on metaphase spreads: chromosomal aberration scoring after irradiation. Human lymphocytes were irradiated with fast neutrons from the  $d \rightarrow Be$  reaction with a dose of 1.5 Gy and were repeatedly stained by FISH. Chromosome-specific probes were purchased from Cambio and Oncor. Biotin-labeled probes were stained with FITC (green) and digoxigenin-labeled probes were stained with rhodamine (red). The counterstain was DAPI (blue). The same mitosis is shown for five subsequent hybridizations. Note that whereas digoxigenin (red) can be washed out without problems, biotin (green) remains on the chromosomes also in the next staining. In the second hybridization, a dicentric between chromosomes 1 and 2 with two common acentric fragments is clearly visible.