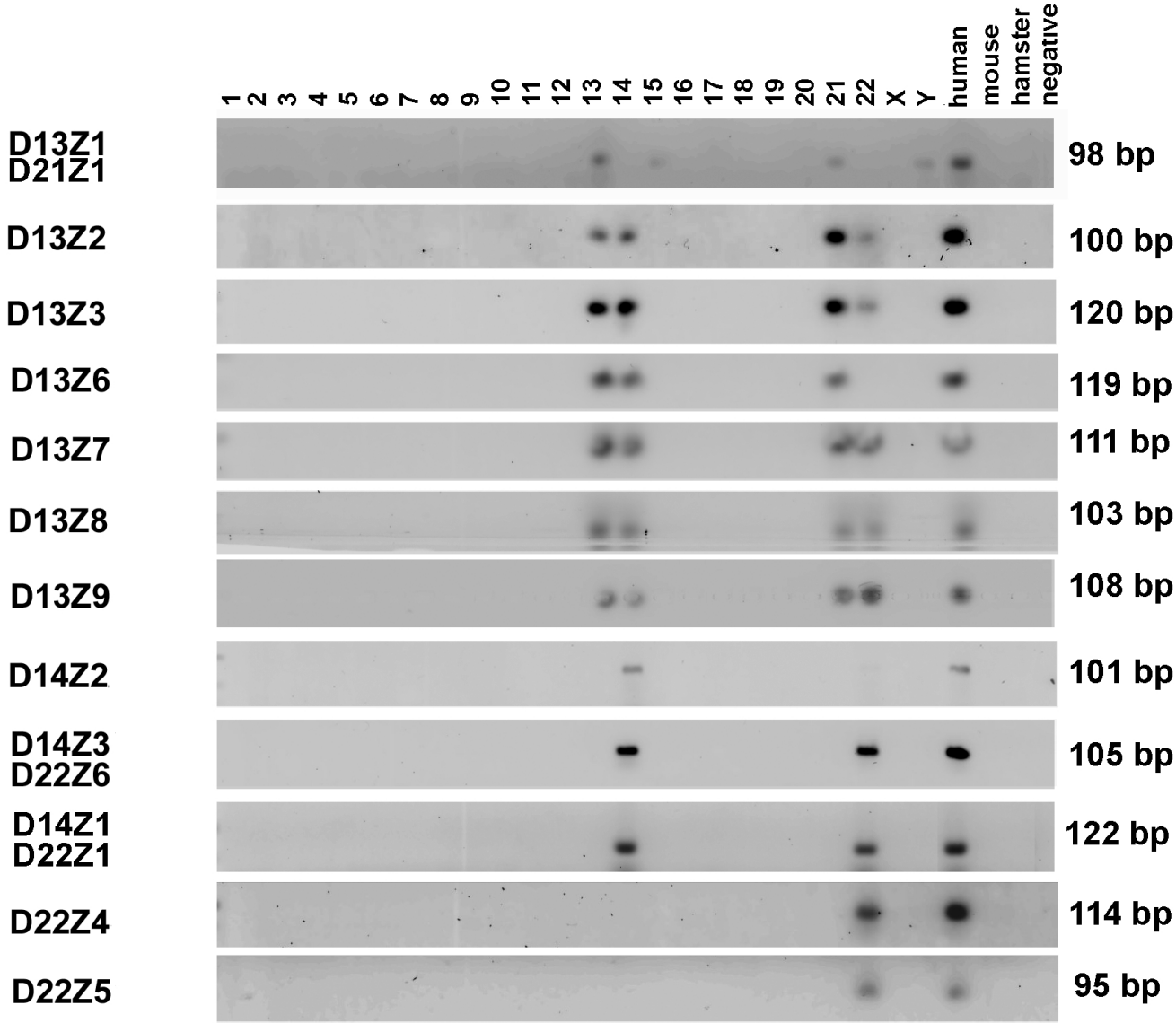
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17
18
19
20
21
22
X
Y
human
mouse
hamster
negative
D13Z1
D21Z1
98 bp
D13Z2
100 bp
D13Z3
120 bp
D13Z6
119 bp
D13Z7
111 bp
D13Z8
103 bp
D13Z9
108 bp
D14Z2
101 bp
D14Z3
D22Z6
105 bp
D14Z1
D22Z1
122 bp
D22Z4
114 bp
D22Z5
95 bp

Figure S3. **Detection of recently identified centromeric arrays that had been temporarily assigned to chromosomes 13, 14, 21, and 22**. Representative arrays identified in the most recent human genome assembly (hg38) by Dr. Karen Miga (Miga et al. 2014; Miga 2015) and temporarily assigned to centromeres 13, 14, 21, and 22 (Y Axis) were assessed by PCR assays in order to verify chromosomal identity and whether they could be used as specific markers of a given chromosome. The number of repeats of each array was quantitated by qPCR using specific primers. Gel electrophoresis of qPCR products amplified from DNA of human/rodent hybrid cells was conducted, with each hybrid cell containing only one human chromosome (displayed on the X-axis). DNA from rodent parental mouse or hamster cells is included to control for cross-species hybridization of repeats along with human DNA isolated from peripheral blood lymphocytes that served as a positive control. Water was used as a further negative control. We created an identifying designation for each of these arrays, as they yet had not been named using the original nomenclature for centromere arrays: the letter D, followed by the chromosome number (13, 14, 21 or 22, reassigned after our PCR validation), and then followed by a Z and a number indicating the order in which the original sequence was discovered. Using the primers and qPCR conditions outlined above (Supplemental Tables 1 and 2), we found that some of these centromeric arrays exist in two or more of the homologue centromeres 13, 14, 21, and 22 (i.e, D13Z1-D13Z9) and sometimes the arrays are found exclusively in only one centromere (i.e, D14Z2, D22Z4 and D22Z5 in chromosomes 14 or 22, respectively). The accession numbers of these arrays can be seen in Supplemental Table 2.