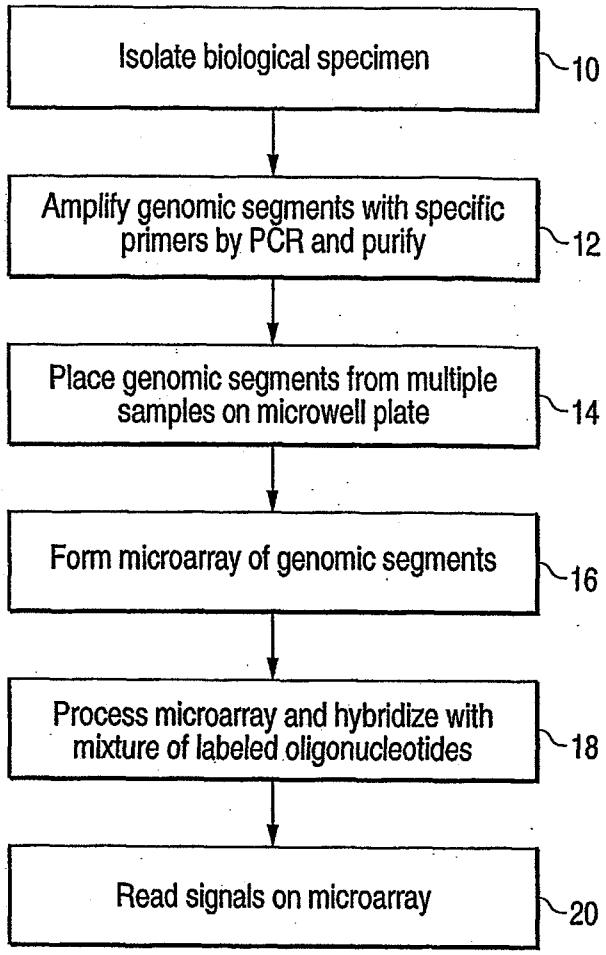

Isolate biological specimen
10
Amplify genomic segments with specific primers by PCR and purify
12
Place genomic segments from multiple samples on microwell plate
14
Form microarray of genomic segments
16
Process microarray and hybridize with mixture of labeled oligonucleotides
18
Read signals on microarray
20

FIG. 1

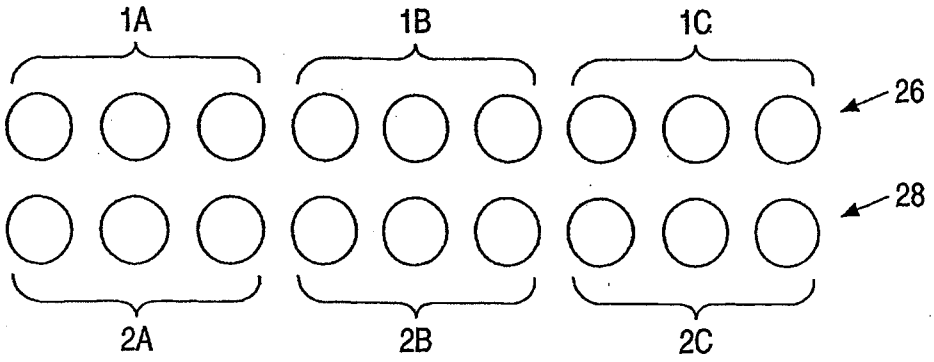

1A
1B
1C
26
28
2A
2B
2C

FIG. 2

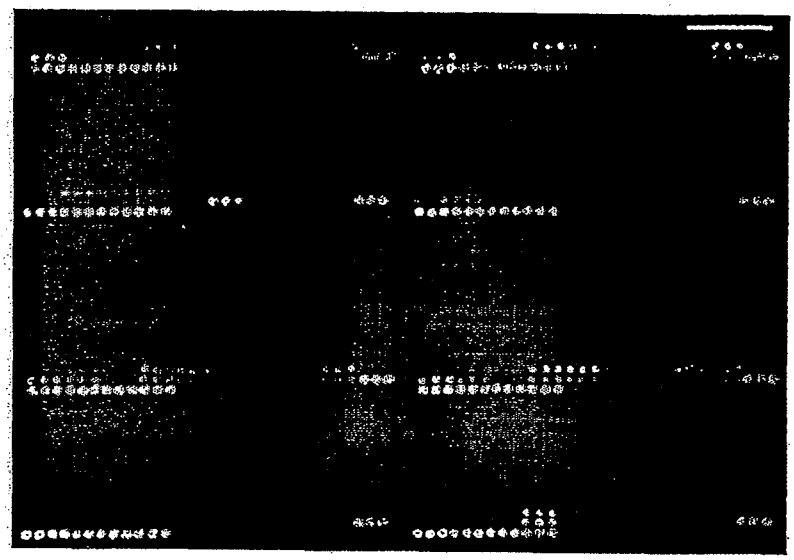


FIG. 3A

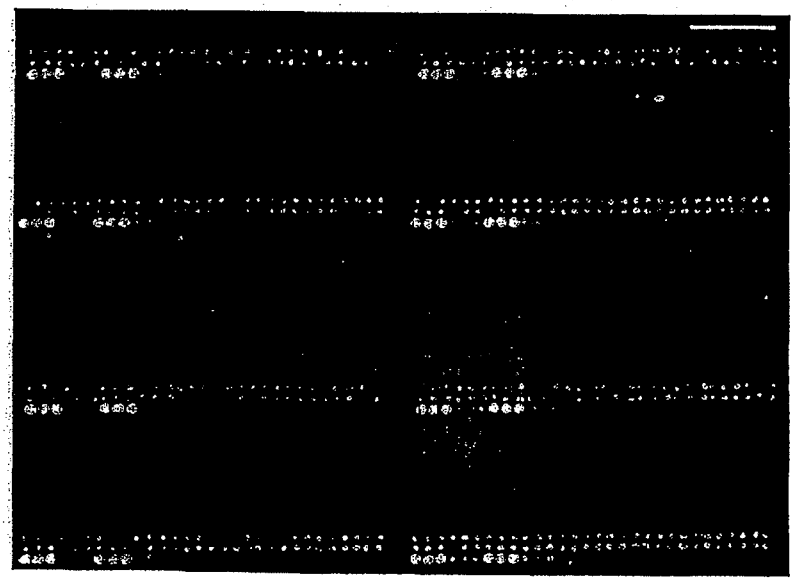


FIG. 3B

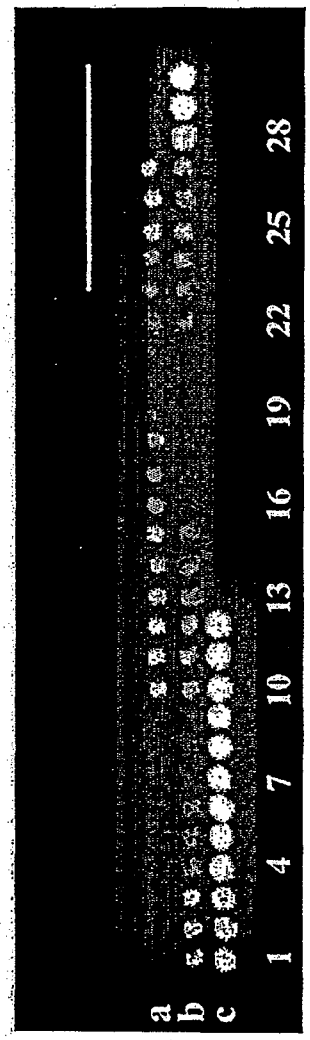


FIG. 4A

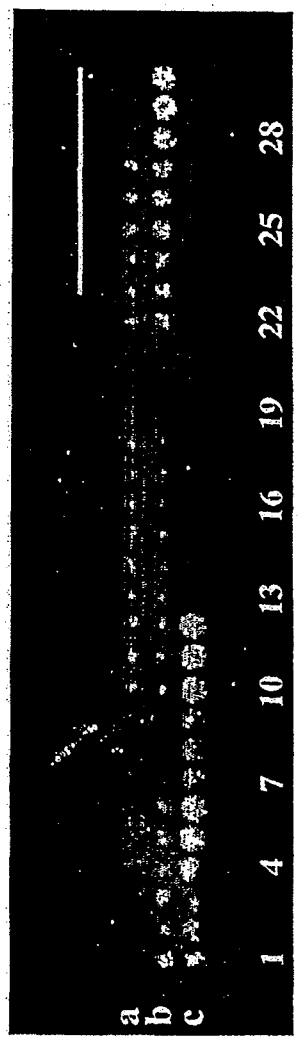


FIG. 4B

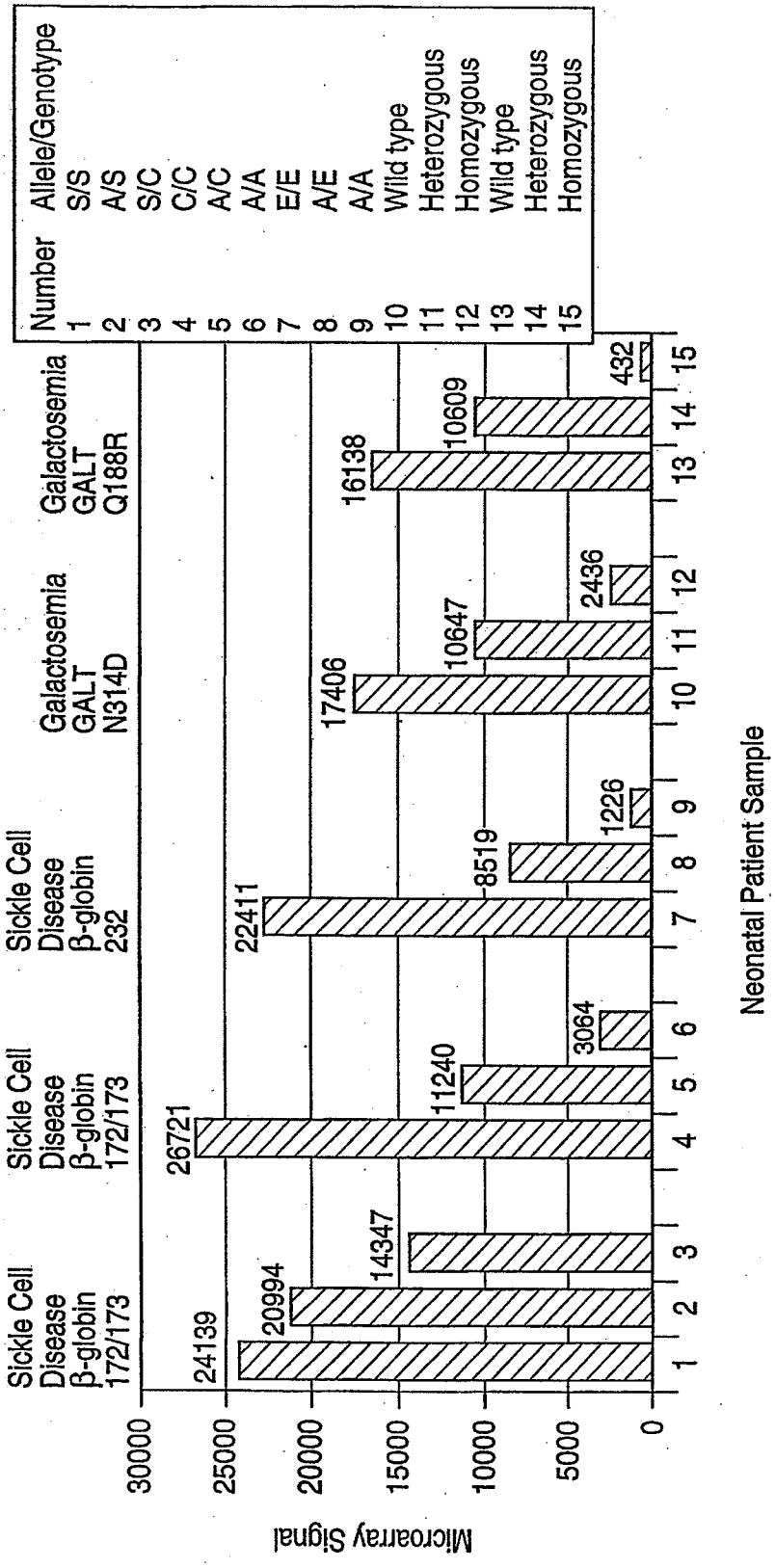

Number Allele/Genotype
1 S/S
2 A/S
3 S/C
4 C/C
5 A/C
6 A/A
7 E/E
8 A/E
9 A/A
10 Wild type
11 Heterozygous
12 Homozygous
13 Wild type
14 Heterozygous
15 Homozygous
Sickle Cell Disease β-globin 172/173
Sickle Cell Disease β-globin 172/173
Sickle Cell Disease β-globin 232
Galactosemia GALT N314D
Galactosemia GALT Q188R
24139
20994
14347
26721
11240
3064
22411
8519
1226
17406
10647
2436
16138
10609
432
30000
25000
20000
15000
10000
5000
0
Microarray Signal
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Neonatal Patient Sample

FIG. 5

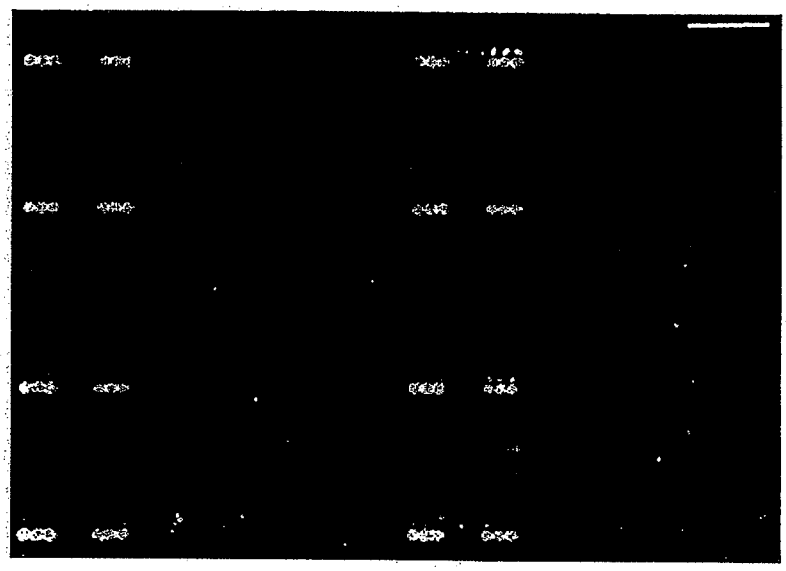


FIG. 6A

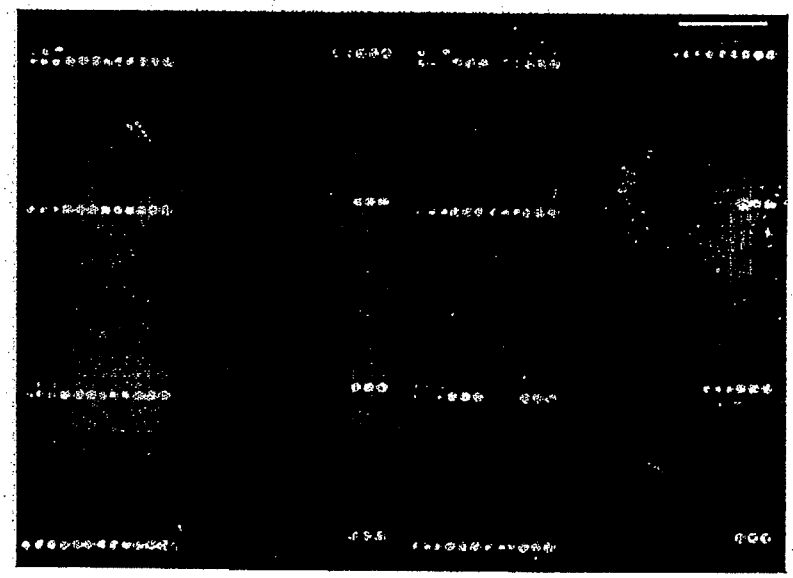


FIG. 6B