Isolation and mapping of a polymorphic DNA sequence (pYNZ22) on chromosome 17p [D17S30]

Y.Nakamura, L.Ballard, M.Leppert, P.O'Connell, G.M.Lathrop, J.-M.Lalouel and R.White

The Howard Hughes Medical Institute, University of Utah School of Medicine, Salt Lake City, UT 84132, USA

SOURCE/DESCRIPTION: A 1.7 kb BamHI fragment from the cosmid YNZ22 isolated by zetaglobin oligonucleotide (1) was subcloned into the BamHI site of pBR322.

POLYMORPHISM: MspI identifies a more than ten allele VNTR polymorphism with bands between 0.5 kb and 1.3 kb. TaqI, RsaI, BamHI, PstI and HindIII also detect the same polymorphism.

HETEROZYGOSITY: 86% heterozygosity was observed in 60 unrelated Caucasians.

NOT POLYMORPHIC FOR: BglII, EcoRI do not optimally resolve the VNTR polymorphism.

CHROMOSOMAL LOCALIZATION: This probe was assigned to chromosome 17p by multipoint linkage analysis (2) with loci (D17S1, MYH2, D17Z1) known to span this region (3,4).

MENDELIAN INHERITANCE: Co-dominant segregation has been observed for for the pYNZ22 VNTR demonstrated in 30 three generation families.

PROBE AVAILABILITY: Available from the ATCC. Or contact Y.N.

OTHER COMMENTS: RFLPs were observed under normal conditions of hybridization and washing.

REFERENCES:

1. Y. Nakamura et al., Science 235: 1616-1622 (1987)
2. G.M. Lathrop et al., Am. J. Hum. Genet. 37:482-498 (1985)
3. S. Naylor et al., Cytognet. Cell Genet. 40:242-267 (1985)
4. Y. Nakamura et al., abstract submitted to the Human Gene Mapping Workshop 9